

SEQUENCE LISTING

<110> Jacobs, Kenneth
 McCoy, John M.
 LaVallie, Edward R.
 Collins-Racie, Lisa A.
 Evans, Cheryl
 Merberg, David
 Treacy, Maurice
 Agostino, Michael J.
 Steininger II, Robert J.
 Spaulding, Vikki
 Wong, Gordon G.
 Clark, Hilary
 Fechtel, Kim
 Genetics Institute, Inc.

<120> SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM

<130> 1290.1018009

<140>

<141>

<160> 283

<170> PatentIn Ver. 2.0

<210> 1

<211> 3871

<212> DNA

<213> Homo sapiens

<400> 1

```

tttcttcttc cctccccctt tcccttcctt cgtcccttcc ttccttcctt tcgccggggcg 60
cgatggagcc ggggcgcgcg ggggcgcgcg cgctgctagc gctgctgtgc gtggcctgcg 120
cgctgcgcgc cgggcgcgcc caatacgaac gctacagctt ccgcagcttc ccacgggacg 180
agctgatgcc gctcgagtcg gcctaccggc acgcgctgga caagtacagc ggcgagcact 240
gggcccagag cstkggctac ctggagatca gcctgcggct gcaccgcttg ctgcgcgaca 300
gcgaggcctt ctgccaccgc aactgcagcg ccgcgcgcga gcccagagcc gccgcgcggc 360
tcgccagcta tcccagagctg cgctctctcg ggggcctgct gcgccgcgcg cactgcctca 420
agcgcctgcaa gcagggcctg ccagccttcc gccagtccca gcccagccgc gaggtgctgg 480
cggacttcca gcgccgcgag ccctacaagt tcttgagctt cgcttacttc aaggcaaata 540
atctcccaaa agccatcgcc gctgctcaca cctttctact gaagcatcct gatgacgaaa 600
tgatgaagag gaacatggca tattataaga gcctgccttg tgccgaggac tacattaaag 660
acctggaaac caagtcatat gaaagcctgt tcatccgagc agtgccggga tacaacggtg 720
agaactggag aacatccatc acagacatgg agctggccct tcccgaactc ttcaaagcct 780
tttacgagtg tctcgcgacc tgcgagggtt ccaggagatg caaggacttc aaggatttct 840
acctttccat agcagatcat tatgtagaag ttctggaatg caaaatacag tgtgaagaga 900
acctcacccc agttatagga ggctatccgg ttgagaaatt tgtggctacc atgtatcatt 960
acttgagctt tgcctattat aagttgaacg acctgaagaa tgcagcccc tgtgcagtca 1020
gctatctgct ctttgatcag aatgacaagg tcatgcagca gaacctggtg tattaccagt 1080
accacagggg cacttggggc ctctcgatg agcacttcca gcccagacct gaagcagttc 1140
agttctttta tgtgaccaca ctocagaagg agctgtatga ctttgctaag gaaaatataa 1200
tgatgatga tgaggagaa gttgtggaat atgtggatga cctcttgga ctggaggaga 1260
ccagctagcc cacagcaacc aaagagactt cctcttggcg ttcaggaaac acagattctt 1320
tgtccttttc ccaacagccc aggctgttga tacctcagag ccttctctt actctccaaa 1380
gtgaaagggg agcccccgtc tctctaactg catgtcatca ggggtgagcc tgcctttcct 1440

```

```

atcttcacac ctgccaccte atgttcacac ctatctttct cacttttttt ttgagatgga 1500
gtctcgctct cttgcccagg ctggagtgca atggcacgtt ctcagctcac tgcaacctcc 1560
gcctcttggg ttcaagcaat tctgctgcat cagcctcccg agtacctggg attacaggca 1620
tgtgccacca cgcccggtta attttgtatt tttagtagag acgggggttt gccatgttgg 1680
ccaggctggg ctcgaactct tgacttcaga tgatccatct gccttggcct cccacagtgc 1740
tgggattaca ggctgagcc accatgcccg gcctctttct cacttttaca cctgtcttct 1800
tatcctcaca tctgttttca caccttcac cctgtcttcc tcatgttcac acttgtcttc 1860
cccatgttca tagctgcctt tcttaccatt ttggtttgaa gggcagtcct ctctggcctg 1920
tttttttgtt tttcccagaa aatcagtatt atttttttaa taagaaaaac attcctagaa 1980
gatgataatt gtgaaaacct cctttggcct atttgtttt ccagatttta gtctcctttc 2040
tccccatccg ggaaagatgg tggaaagacat aggctaaatt tctccagcct cacaatgggc 2100
ttcacttggg ctgacttgta ccaattctag caccactga aaaacaagtt gagtagagag 2160
tgtagagtgc agaaatgtgg cttttgccc actttgcac tccaaaatta caacgggttg 2220
ccgatcccat ttgaggacaa tgcttagtta taagtctccg agttggaaaa ggaagaaagc 2280
cagagctgtc tagtttcatt cattctttta gtaaataatt attgagtacc tactgtgtgc 2340
taggcattga cctgggaact agagatactt cacagaataa cagggaaggt tccctgtgct 2400
catggagcct acattctaca gggagaaaga gatagccaat acataggaat aaatatatac 2460
aaggtatcat gtagtgataa ttgctgtgga gaaaaataaa gcaggggagg gagtaagaaa 2520
tcttgagat gaggctgcag ttttaaattg ggctcactg ggaatgtgac gttgagcaga 2580
gacgttaggg aagtggatcc tggacaaggc attccaggca gaggaacaag atgtgcactg 2640
cccaaagtg agaacttgct ctacgtgggc aggaaagagc agggagacca agcagagtcg 2700
tgggcagggg tagaatggaa ggagaggcgg ctggggagga caggtggtgg agggccttgg 2760
cttctgctaa gtgagatggg aaccactgga gggtttgaa agaggagtgc cttgattgat 2820
ttatatattg caagggtcat tctagctgca atattgtgaa aaactttagt ggacaagggc 2880
agaaggaaga ggggaagacct gttaggaagc tactgcaagg ttccaggctt gggcctgggc 2940
cacagcaaca gcagtgggtca aatatctaga tttattttga aaagagccaa taggatttgc 3000
tgagagtttg aatgtggagt gtaagagaag gaagagttaa tgatgacatt aaggtttttg 3060
gcctgaatag caggaaagat ggagttacca gttactgaaa tagggaagga tgggctgggt 3120
aagtaaggaa tttgggtgca agcaggctgt ctgtggttgg aatgggaggt tctggctgca 3180
aatcaaagtg gagattctct cagggtcagg ctgcagcaga gctcgagaca gggatctgaa 3240
tgcacttggg ttattgttgg ggggtgctctc agaaggaacc tgtgaaagcc tttatcagtc 3300
atltattggc tgtgagaagt tctctgggag tgtgggtaca tttgaaggca agtgacttca 3360
gttgagggca agtctctgga aaagaggctg taggcactcg gcagctacca tgcgtggtag 3420
tgtgtgggg gtgggggtcc tgggcactgg ctgtgtgaag ggatctggca gggcaccaca 3480
gcgcccccta ctgaaccatc agcatgtcag tggcatttaa agccatgcag ctggaggggc 3540
cactgagatt gtctctgagt attactgaga agcaacagaa aagagccatg gatggagccc 3600
ttgggctctc tgggaaatgg gaaatcagcc aaaggactga gaaggagtta ccttaaggtc 3660
agagaaaacc aagagagtgt ggtgttctgg aagctgagct ttctttatc aacctattc 3720
ccttctccaa ataagccact tgtgtagttg gggccctcca gggttgaagg caagaggaga 3780
aaggcacagc gtttgggaaa caagactttt cctgcaatag cctgggaagg aataaaagga 3840
tagagtgtta aaataaaaaa aaaaaaaaaa a 3871

```

<210> 2
 <211> 401
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (64)

<400> 2
 Met Glu Pro Gly Arg Arg Gly Ala Ala Ala Leu Leu Ala Leu Leu Cys
 1 5 10 15
 Val Ala Cys Ala Leu Arg Ala Gly Arg Ala Gln Tyr Glu Arg Tyr Ser
 20 25 30
 Phe Arg Ser Phe Pro Arg Asp Glu Leu Met Pro Leu Glu Ser Ala Tyr
 35 40 45

Arg His Ala Leu Asp Lys Tyr Ser Gly Glu His Trp Ala Glu Ser Xaa
 50 55 60
 Gly Tyr Leu Glu Ile Ser Leu Arg Leu His Arg Leu Leu Arg Asp Ser
 65 70 75 80
 Glu Ala Phe Cys His Arg Asn Cys Ser Ala Ala Pro Gln Pro Glu Pro
 85 90 95
 Ala Ala Gly Leu Ala Ser Tyr Pro Glu Leu Arg Leu Phe Gly Gly Leu
 100 105 110
 Leu Arg Arg Ala His Cys Leu Lys Arg Cys Lys Gln Gly Leu Pro Ala
 115 120 125
 Phe Arg Gln Ser Gln Pro Ser Arg Glu Val Leu Ala Asp Phe Gln Arg
 130 135 140
 Arg Glu Pro Tyr Lys Phe Leu Gln Phe Ala Tyr Phe Lys Ala Asn Asn
 145 150 155 160
 Leu Pro Lys Ala Ile Ala Ala Ala His Thr Phe Leu Leu Lys His Pro
 165 170 175
 Asp Asp Glu Met Met Lys Arg Asn Met Ala Tyr Tyr Lys Ser Leu Pro
 180 185 190
 Gly Ala Glu Asp Tyr Ile Lys Asp Leu Glu Thr Lys Ser Tyr Glu Ser
 195 200 205
 Leu Phe Ile Arg Ala Val Arg Ala Tyr Asn Gly Glu Asn Trp Arg Thr
 210 215 220
 Ser Ile Thr Asp Met Glu Leu Ala Leu Pro Asp Phe Phe Lys Ala Phe
 225 230 235 240
 Tyr Glu Cys Leu Ala Ala Cys Glu Gly Ser Arg Glu Ile Lys Asp Phe
 245 250 255
 Lys Asp Phe Tyr Leu Ser Ile Ala Asp His Tyr Val Glu Val Leu Glu
 260 265 270
 Cys Lys Ile Gln Cys Glu Glu Asn Leu Thr Pro Val Ile Gly Gly Tyr
 275 280 285
 Pro Val Glu Lys Phe Val Ala Thr Met Tyr His Tyr Leu Gln Phe Ala
 290 295 300
 Tyr Tyr Lys Leu Asn Asp Leu Lys Asn Ala Ala Pro Cys Ala Val Ser
 305 310 315 320
 Tyr Leu Leu Phe Asp Gln Asn Asp Lys Val Met Gln Gln Asn Leu Val
 325 330 335
 Tyr Tyr Gln Tyr His Arg Asp Thr Trp Gly Leu Ser Asp Glu His Phe
 340 345 350
 Gln Pro Arg Pro Glu Ala Val Gln Phe Phe Asn Val Thr Thr Leu Gln
 355 360 365
 Lys Glu Leu Tyr Asp Phe Ala Lys Glu Asn Ile Met Asp Asp Asp Glu
 370 375 380

Gly Glu Val Val Glu Tyr Val Asp Asp Leu Leu Glu Leu Glu Glu Thr
 385 390 395 400

Ser

<210> 3
 <211> 3637
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (1582)

<400> 3
 tttttttttt ttttttttta agaagaaggt ccaaatacaat aggtctttta ttgcatcatt 60
 taaatatcac aagtaggtct taagtgtcat ctggcatctt ctttctgtag ccaggtaact 120
 cttagatctt attcatcagc ctgctgaaca gttccttttt cagagacata gataccatcc 180
 aaaaatttcc tgatatcctt gtttttaact gttgtggott gctgaatcaa agccgctgaa 240
 tttgaaacaa gctcaatgtc atcccgattg agtaccagct cccactgcc ctgagggcgg 300
 gccggcctgc ggcggagggg aaaaggaaga ggagaaggaa attgtcccga atccctgcag 360
 tctttctgta ggttgcggca caacgccagg caaaagaaga ggaaggaatt taatccta 420
 cgggtggagg cgatttgagg gtctgctgta gcagggtggc ccgcttgaag cgagggagga 480
 agtttctctc gatcagtaga gattggaaag attgttggga gtggcacacc actagggaaa 540
 agaagaagg gcaactgct tgtcttgagg aggtcaaccc ccagaatcag ctcttgaggc 600
 cttgaagtgg ctgaagacga tcacctcca caggcttgag ccagtcacca cagccttctc 660
 cccccagcct gaggactac tctattcctt ggtccctgct attgtcgggg acgattgcat 720
 gggctacgcc aggaagtag gctgggtgac cgcaggcctg gtgattgggg ctggcgctg 780
 ctattgcatt tatagactga ctaggggaag aaaacagaac aaggaaaaaa tggctgaggg 840
 tggatctggg gatgtggatg atgctgggga ctgttctggg gccaggtata atgactggtc 900
 tgatgatgat gatgacagca atgagagcaa gaggatagta tggtagccac cttgggctcg 960
 gattgggact gaagctggaa ccagaactag ggccagggca agggccaggg ctacccgggc 1020
 acgtctggct gtccagaaac gggcttcccc caattcagat gataccgttt tgtcccctca 1080
 agagctacaa aagggtcttt gcttggttga gatgtctgaa aagccttata ttcttgaagc 1140
 agctttaatt gctctgggta acaatgctgc ttatgcattt aacagagata ttattcgtga 1200
 tctgggtggc ctcccaattg tcgcaaagat tctcaatact cgggatccca tagttaagga 1260
 aaaggcttta attgtcctga ataacttgag tgtgaatgct gaaaatcagc gcaggcttaa 1320
 agtatacatg aatcaagtgt gtgatgacac aatcacttct cgcttgaact catctgtgca 1380
 gcttgctgga ctgagattgc ttacaaatat gactgttact aatgagatc agcacatgct 1440
 tgctaattcc atttctgact ttttctgctt attttcagcg ggaaatgaag aaaccaaact 1500
 tcaggttctg aaactccttt tgaatttggc tgaaaatcca gccatgacta gggaactgct 1560
 cagggcccaa gtaccatctt cnctgggctc cctctttaat aagaaggaga acaaagaagt 1620
 tattcttaaa cttctgggtca tatttgagaa cataaatgat aatttcaa at ggggaagaaa 1680
 tgaacctact cagaatcaat tcgggtgaagg ttcacttttt ttctttttta aagaatttca 1740
 agtgtgtgct gataaggttc tgggaataga aagtcaccat gatttttttg tgaaagtaaa 1800
 agttgaaaaa ttcattggcca aacttgctga acatatgttc ccaaagagcc aggaataaca 1860
 ccttgatttt gtaattttaga agcaacacac attgtaaaact attcattttc tccaccttgt 1920
 ttatatggta aaggaatcct ttcagctgcc agttttgaat aatgaatata atattgtatc 1980
 atcaatgctg atatttaact gagttggtct ttaggtttaa gatggataaa tgaatatcac 2040
 tacttgttct gaaaacatgt ttgttgcttt ttatctcgct gcctagattg aaatatattg 2100
 ctatttcttc tgcataagtg acagtgaacc aattcatcat gagtaagctc ccttctgtca 2160
 ttttcattga ttttaatttgt gtatcatcaa taaaattgta tgtaaatgct ggaaagaaaa 2220
 aaagaagaaa gaaagaaacc atccctgtcc ttcagtttat aatctagttg gagagataag 2280
 aaacgtacaa accaaaagat aacagaatat ctgaagcatg tactcattgt cagatgttcc 2340
 ctctgagagc acagaggagg caaaagcttc tgtgggatgt gctagtcggc taaagcttca 2400
 cagaggaggt ggcaattgaa aatgagtcct gaatggggtg ggggtggttag ggaattccat 2460
 gagacaagac aaggggggca tgggttgaga aaggcatgga agtaggaacc ctcttctat 2520
 gacaggagat cttctgctt agagtggaga gtgtggagag tgggagtaga taattttgga 2580
 aagctgggtg aagccagttg tggagaattg tttgaatatt atcccattga ataccagag 2640


```

ccactaaatc tttttttact agaaaataat tggggtccat atgaaagtct ctattactga 2700
gtagtggtcaa tgagggtgtg gcaaaatgga gcctttcaca tcctagtggg ggccatttgg 2760
taatacagat ataagcctta aactatgtaa acccttgtcc taaggaagta attgaataat 2820
tgcccaaaga ttgtatgtat gaggtgttc atcccagcac tgtctaagct agtaaaaatt 2880
ggaaacaatt taagtatcta gcacattgga ttggttataa agcaaggaat gttcacacag 2940
taggatatta taagtatgct gatggaaatc tatattgcca ggaaaagcta ttcattatgc 3000
gttgtgaagt cagaaagtaa aaaagggtag atagaagtat tcgaagtata gttccatttt 3060
ttgagactaa taaaacatat gtttaaaagg acactaaaaa ctggagttat agatatccag 3120
atagaaacag tagttatctt tgggtagaag aataatgagt gatctttact tttttacttt 3180
ttattcatct ttgtgttttt atttatctaa aatgggtatt gatttttagg acggttttga 3240
aaaagaaaag tggtgggaat gaagcaagtg attgattgga aaacatactg aatggaagaa 3300
atatttagat taaaaatgag gtaggttgaa gtttcttctc tgaaatgata gataaatggg 3360
gaagataagg cttattgtga ggattcagtg aggtaataata tgcaaagtac ttacaatggt 3420
ctggcacata gtaattaatt aagaaaatcg agcaccctta attacctaga atgcagggtt 3480
gttagttttt tgggtgactt ttgttttgct ggggcattct gccatgtttt agtgtcattt 3540
aataaataat agtaacaata aaggttaaca tttattaagt gaaaaaaaaa aaaaaaaaaa 3600
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 3637

```

<210> 4

<211> 379

<212> PRT

<213> Homo sapiens

<400> 4

```

Met Gly Tyr Ala Arg Lys Val Gly Trp Val Thr Ala Gly Leu Val Ile
  1             5             10             15

```

```

Gly Ala Gly Ala Cys Tyr Cys Ile Tyr Arg Leu Thr Arg Gly Arg Lys
  20             25             30

```

```

Gln Asn Lys Glu Lys Met Ala Glu Gly Gly Ser Gly Asp Val Asp Asp
  35             40             45

```

```

Ala Gly Asp Cys Ser Gly Ala Arg Tyr Asn Asp Trp Ser Asp Asp Asp
  50             55             60

```

```

Asp Asp Ser Asn Glu Ser Lys Ser Ile Val Trp Tyr Pro Pro Trp Ala
  65             70             75             80

```

```

Arg Ile Gly Thr Glu Ala Gly Thr Arg Thr Arg Ala Arg Ala Arg Ala
  85             90             95

```

```

Arg Ala Thr Arg Ala Arg Leu Ala Val Gln Lys Arg Ala Ser Pro Asn
  100            105            110

```

```

Ser Asp Asp Thr Val Leu Ser Pro Gln Glu Leu Gln Lys Val Leu Cys
  115            120            125

```

```

Leu Val Glu Met Ser Glu Lys Pro Tyr Ile Leu Glu Ala Ala Leu Ile
  130            135            140

```

```

Ala Leu Gly Asn Asn Ala Ala Tyr Ala Phe Asn Arg Asp Ile Ile Arg
  145            150            155            160

```

```

Asp Leu Gly Gly Leu Pro Ile Val Ala Lys Ile Leu Asn Thr Arg Asp
  165            170            175

```

```

Pro Ile Val Lys Glu Lys Ala Leu Ile Val Leu Asn Asn Leu Ser Val
  180            185            190

```

```

Asn Ala Glu Asn Gln Arg Arg Leu Lys Val Tyr Met Asn Gln Val Cys
  195            200            205

```

Asp Asp Thr Ile Thr Ser Arg Leu Asn Ser Ser Val Gln Leu Ala Gly
 210 215 220
 Leu Arg Leu Leu Thr Asn Met Thr Val Thr Asn Glu Tyr Gln His Met
 225 230 235 240
 Leu Ala Asn Ser Ile Ser Asp Phe Phe Arg Leu Phe Ser Ala Gly Asn
 245 250 255
 Glu Glu Thr Lys Leu Gln Val Leu Lys Leu Leu Leu Asn Leu Ala Glu
 260 265 270
 Asn Pro Ala Met Thr Arg Glu Leu Leu Arg Ala Gln Val Pro Ser Ser
 275 280 285
 Leu Gly Ser Leu Phe Asn Lys Lys Glu Asn Lys Glu Val Ile Leu Lys
 290 295 300
 Leu Leu Val Ile Phe Glu Asn Ile Asn Asp Asn Phe Lys Trp Glu Glu
 305 310 315 320
 Asn Glu Pro Thr Gln Asn Gln Phe Gly Glu Gly Ser Leu Phe Phe Phe
 325 330 335
 Leu Lys Glu Phe Gln Val Cys Ala Asp Lys Val Leu Gly Ile Glu Ser
 340 345 350
 His His Asp Phe Leu Val Lys Val Lys Val Gly Lys Phe Met Ala Lys
 355 360 365
 Leu Ala Glu His Met Phe Pro Lys Ser Gln Glu
 370 375

<210> 5
 <211> 1608
 <212> DNA
 <213> Homo sapiens

<400> 5
 gtatcctggt gcatagactt aacactgtat ttttaactcag gtaatgtatg gccttttttgt 60
 ttattttttt cctgcatttt tggggggtgt tgaaataagt aaactgggaa ggtgcagggg 120
 aattcttaaa ttcaatgcaa ggagtttttg ctgagtatct gcagcattca aggaattaat 180
 attagtcact gagaacaaaa agcgaaatta gaaaatttca agtcacttct aggcctttag 240
 gggagaagac gtgtagtgat gaattctatc atttatgaag taccactgg atccacaca 300
 ctgtgcaaga ccttttagatc aggcgcctcc ctcggttttc ttcaccctgt gcagcaggtg 360
 ctgtttatttc cttttttaaa ttattattta ttattattat tttttgagac aggatctccc 420
 tttgtcactc aggcctggaat gcagaggcat gatcactgct cactgcagct tcgaccaccc 480
 aggctcaaag gaggctccca cctcggtgct tgccacacct ggccaacttt tttgtatttt 540
 tttggtagag accgggggttt caccatgttg ccaggctgg tottgaaactt ttggactcca 600
 gcgatctgcc tgcctccgcc tccctaagtg ctgggattac agacatgagc cattgtgccc 660
 gtccgtgtgt ttccctgttta gctgaggagg aagggttaga taacttggcc agtcggttgt 720
 aggaccagca ctagtacagt gttgggcacg tagtagtgt ttaatacatg accgatgagc 780
 aaatggctcc agatgtctct ggttccatag gcagccttga atagggtttt acacacctga 840
 tgagaatgac agcctgtgtt gactgagccc tgacttgtgt ccaaccctgc catagtgcc 900
 gtgccttgca tgaattcaat aatttgagcc tagcagcaac cttagaggt aggtactgtt 960
 acctcccggt ttataaatga gaagacaggc gcagtgaggc ccaagattga agagcttgtg 1020
 gccagaaga tggagttgca ggtggtttgg ccatagagct gatgcttgct aaatgtgtta 1080
 tatctgtgat ggtcatttta ggttaataaa agctctgttt ttagattgat aattctaagg 1140
 gtttatcatc aagggtgatg agaaggtagg ggagcccttg tgtgtagcgc agcaactctg 1200
 gccttctgga cagtaggtag gcatgtgatc actgttgtca ctaaacctgg gaaatgattc 1260

```

ctggggtcagg gttcattaat tgccaaatga tttaaagtaat aaagctgaca ctggaaaactt 1320
atctaacttc atttcttttc cttgattttac aaagatagtc aatacatttt cctaccaaaa 1380
agaactggcc agccgtggtg gctcatgcct gtaatcctag cagtttagga agccgaggtg 1440
ggcggatcgc ttgaggtcag gagttcgaga ccagtctggc caacatggtt gaaatcctgt 1500
ctctactgaa aatacaaaaa ttatctgggc atagtgggtg gtgcctgtaa ttgcagcctg 1560
ggcaacggag tgagagactg tctcaggaaa aaaaaaaaaa aaaaaaaaaa 1608

```

<210> 6
 <211> 122
 <212> PRT
 <213> Homo sapiens

<400> 6
 Met Asn Ser Ile Ile Tyr Glu Val Pro Thr Gly Ser His Thr Leu Cys
 1 5 10 15
 Lys Thr Phe Arg Ser Gly Ala Ser Leu Gly Phe Leu His Pro Val Gln
 20 25 30
 Gln Val Leu Leu Phe Pro Phe Leu Asn Tyr Tyr Leu Leu Leu Leu Phe
 35 40 45
 Phe Glu Thr Gly Ser Pro Phe Val Thr Gln Ala Gly Met Gln Arg His
 50 55 60
 Asp His Cys Ser Leu Gln Leu Arg Pro Pro Arg Leu Lys Gly Val Ser
 65 70 75 80
 His Leu Gly Cys Cys His Thr Trp Pro Thr Phe Leu Tyr Phe Phe Gly
 85 90 95
 Arg Asp Arg Gly Phe Thr Met Leu Pro Arg Leu Val Leu Asn Phe Trp
 100 105 110
 Thr Pro Ala Ile Cys Leu Pro Pro Pro Pro
 115 120

<210> 7
 <211> 1969
 <212> DNA
 <213> Homo sapiens

<400> 7
 ggaagttggt ggctgcagct gccgtggttt tctcctggtg tccagcagaa acggcggcgg 60
 cgcaaggtgt ggctgggcca acccaggatc tcccaggacc ctccgctctg cgcgacaagg 120
 ggcccgcgct tgccaaggcc gacgggcagg agtgaacgtg gcctccgtgg gtctgcagcc 180
 ccgataggcc aattgtacag aatttaaacc gtctctcaga tgtgtacagt agaactcaag 240
 aagacagact accaagggtc atctgaagtc gtgattgggt cactaataac accaggacaa 300
 agttaaggga tctactactca agcataagcc ccagttttca taagactgct gtgaagatgt 360
 ttgatataaa ggcttgggct gagtatgttg tggaaatggc tgcaaaggac ccctatggct 420
 tccttacaac cgttattttg gcccttactc cactgttcct agcaagtgtc gtactgtctt 480
 ggaaattggc caagatgatt gagggcaggg agaaggagca aaagaagaag caaaaacgcc 540
 aagaaaacat tgcaaaagct aaacgactaa cagctttgga agaatccact aaagtctctt 600
 aaccagagga aaatcatttg gaaaattaca aagctttgga agaattccact aaagtctctt 660
 ctttggattt cttgacagta tgatttagta aatgaaattt gaccaaattg aagaatcatg 720
 ttagttctga cctcaatact atagtaactt ttaggcgtgg gtgtagaagt ttataggttt 780
 ctattgacag ttattgtaaa ttagcattta ctgtgtgaca aattctttat aactgactta 840
 gtcatttgcc gcttagcagt ttatatactg aaatgaaaac atcttggtgg gaaaagtgc 900
 ttagattat gaactcaatt caaatgaact ctatttaaaa tggggctcta tttgggactaa 960
 aggaaattaa gaatgttaaa gtcagaacag tcttgaggta aaaagtgtgc tttgggactaa 1020
 aagggatata gtatattaat tacatctttt attattattg tttatttctt agaatcattt 1080

```

ctggctttct caaaacaaaa taatattaat gagtacttct atttgotgca tttttcttat 1140
tacagccttt gagacagctg gtaattataa gtcattttcc attttttaaa acataatttt 1200
ataaagaatt ctcttatctc gactatgtag aataccacct actggacaga acaatttttg 1260
tactacaaa cactgccatt ttcttagaga tggcttgaga ggagtaacac tatgggttaa 1320
agcttgacgt aaaaatgcc aacactgtag taccttggaa cccagtttat tcttgtgcta 1380
agcagaactg taaaatagtt aaaatgtctt atcaagtaat tcgccgatta caaagacacc 1440
atttgttttt tatttcattc tttgttttaa ctcatgtggt agtgatattt aatactttct 1500
gatcaaacag gttcaaagta aaacgttaaa tttcacattt cttttaaaga actcttaaag 1560
tgtaacagtt acgccatact tcataagtgg taaagaaagg tataaaattt ggaaacattt 1620
tggtgggcat agtagtgatt gggtgaaaag gataaattat atcaaaatga gaatgtgctg 1680
taattggaag tagggagcta aaggatgttt ctttcagttt agtagaactg gaacgtttta 1740
ctattaaaca tggcttttat aaatgcatgg tccaataatt ttattcactg ttagtattta 1800
attcactgtc agcttattaa tgttttctgt acccataat gaattttaaa ttacmaaaaa 1860
ttgtctwgca gctacagttt aaaaatgaaa ctagacatta aaataaattt gataattttt 1920
ttttaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1969

```

<210> 8

<211> 74

<212> PRT

<213> Homo sapiens

<400> 8

```

Met Phe Asp Ile Lys Ala Trp Ala Glu Tyr Val Val Glu Trp Ala Ala
  1             5             10             15

```

```

Lys Asp Pro Tyr Gly Phe Leu Thr Thr Val Ile Leu Ala Leu Thr Pro
      20             25             30

```

```

Leu Phe Leu Ala Ser Ala Val Leu Ser Trp Lys Leu Ala Lys Met Ile
    35             40             45

```

```

Glu Ala Arg Glu Lys Glu Gln Lys Lys Lys Gln Lys Arg Gln Glu Asn
    50             55             60

```

```

Ile Ala Lys Ala Lys Arg Leu Lys Lys Asp
    65             70

```

<210> 9

<211> 819

<212> DNA

<213> Homo sapiens

<400> 9

```

tgacttttta tatatatctc agaggcaaac attcctagtg aagggttggt ttcttcttgc 60
accttggagg ggtcttttca tctgctcagg caccttcgca tccccgtgga tcagggctca 120
gagcagagga gagtcagcag tctctaaatt atcatcatct cctacctgca catgtacaca 180
aaaataagcc tgaatgcttt ttcttagtat gcaatttgct gtctattttt aacttgtaca 240
cagagggcca aaaagaaaaat tccatgagga catgagagtg cattgagggt gcagggtatac 300
agtcacccaaa gaacctgaaa taattgccgg aatgatatcc tctaaaagat gtgagcctct 360
cagagagaga gagagagggg tctctttgca acaggcatcg tgtgtgtgtt ttatgtccct 420
tctcttctgc tgctgtgcac ttaattcggg tccagccgtg tcaggagagac tcgagaaaaa 480
aatcccacca ttaaagacat gctctttggt ttttcaatct gtgacccag caatctcttt 540
agcaagccat ggttcagtga actggcacac agcagccgtt cggcagtgga aaaaatcata 600
aaacagatgg aagctttaca tttttgttta gtttttaaga gcagttttta taacatcgct 660
taagaccatt ctgatgcac atactgttta cactcaaagc tttgtagcta agatgtttac 720
agtatggaga atgttttaag atattttata gttttgatat ttagataatt ggcaaaaaaa 780
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 819

```

<210> 10

<211> 89

<212> PRT

<213> Homo sapiens

<400> 10

Met Ile Ser Ser Lys Arg Cys Glu Pro Leu Arg Glu Arg Glu Arg Gly
 1 5 10 15

Phe Leu Leu Gln Gln Ala Ser Cys Val Cys Phe Met Ser Leu Leu Phe
 20 25 30

Cys Cys Cys Ala Leu Asn Ser Val Pro Ala Val Ser Gly Arg Leu Glu
 35 40 45

Lys Lys Ile Pro Pro Leu Lys Thr Cys Ser Leu Phe Phe Gln Ser Val
 50 55 60

Thr Pro Ala Ile Ser Leu Ala Ser His Gly Ser Val Asn Trp His Thr
 65 70 75 80

Ala Ala Val Arg Gln Trp Lys Lys Ser
 85

<210> 11

<211> 1969

<212> DNA

<213> Homo sapiens

<400> 11

acactccatc	tcccgggagc	aaggggaaac	tccgagagga	gggcaacaga	gccagcatct	60
tgccagggcc	ccggaggagg	ggttccccgc	tacgcctgtg	ccggaggagt	tccagtcacc	120
gagcgagggg	cgcaaggggtg	ggtgcatcct	gcgctgcggc	gggcgcgcta	cccagacgct	180
ggtgtgcaga	gccacatgaa	gcctgctggg	gactgggggc	caggagagcag	caagccagct	240
gggactgagg	cggacgctgt	ctcagggaga	cgctgactcg	caaagacact	cccttccttg	300
tgcttgggta	aaaagtctcc	tcctgggggtc	cctggccatc	ctgaatatcc	agaatgggtg	360
ttctgaagtt	cttctgcatg	agttttcttct	gccacctgtg	tcaaggctac	ttcgatggcc	420
ccctctaccc	agagatgtcc	aatgggactc	tgcaccacta	cttcgtgccc	gatggggact	480
atgaggagaa	cgatgacccc	gagaagtgcc	agctgctctt	cagggtgagt	gaccacaggc	540
gctgctccca	gggggagggg	agccagggtg	gcagcctgct	gagcctcacc	ctgcgggagg	600
agttcacccg	gctggggcgc	caggtggagg	atgctgggcg	cgtgctggag	ggcatcagca	660
aaagcatctc	ctacgacctc	gacggggaag	agagctatgg	caagtacctg	cggcgggagt	720
cccaccagat	cggggatgcc	tactccaact	cggacaaatc	cctcactgag	ctggagagca	780
agttcaagca	gggcccaggaa	caggacagcc	ggcaggagag	caggctcaac	gaggactttc	840
tgggaatgct	ggtccacacc	aggtccctgc	tgaaggagac	actggacatc	tctgtggggc	900
tcagggacaa	atacgagctg	ctggccctca	ccattaggag	ccatgggacc	cgactaggtc	960
ggctgaaaaa	tgattatctt	aaagtatagg	tgggaaggata	caaagtctag	aaagagggaa	1020
tcaaatcagc	cccgttttgg	aggggtggggg	acagaagatg	gggctacatt	tccccatac	1080
ctactatttt	tttatatccc	gatttgcact	ttgagaatac	atctaaggtc	atctttcaaa	1140
agagaaaaat	tggacacttg	agtgactttg	tttttagttt	tgtttttgta	cattatttat	1200
gtgattgtta	tgggaattgtc	acctggaaag	aacaatttta	agcaatgtca	tttctagatg	1260
ggttttcta	tctgcagaga	caccggtttc	agccacatct	aaaagagcac	agtttatgtg	1320
gtgcggaatt	aaacttcccc	atcctgcaga	ttatgtggaa	atacccaaag	ataatagtgc	1380
atagctcctt	tcagcctcta	gccttcactc	ctgggctcca	aaagctatcc	cagttgcctg	1440
tttttcaaat	gaggttcaag	gtgctgcttt	gcctgcctgc	caacccatgg	aagttgtttc	1500
ttacttcttt	tctctcttat	ttattaacca	tggcttgaga	gttggttttg	ttctatgtaa	1560
cagtattgcc	acaaaactat	aggcaaatcg	tgtttgagg	gagatttctg	atgcctctgt	1620
gggtgtgtgt	aagttaaagt	ggccacattt	aagaaggcca	agctttgtag	tggttgacac	1680
gtcacactga	tatgctgatt	tgctctttct	cattgtatgt	ctatgctttg	tcacagtgct	1740
tatagtaaat	tacaaagaaa	taggtagatt	gtatgaacat	acccacaaat	gcctatgatt	1800
taggttacca	atgtattctt	tctcatttgg	ggttttgctt	ctgtctgtct	gtttatttga	1860
aacttgtact	tcaagtaggg	ggaatcctaa	ttctaataac	tccttagcta	agttttatta	1920
ttcaggcaat	aaacatgttt	tcattgtaaaa	aaaaaaaaaa	aaaaaaaaaa		1969

10

<210> 12
 <211> 211
 <212> PRT
 <213> Homo sapiens

<400> 12
 Met Val Phe Leu Lys Phe Phe Cys Met Ser Phe Phe Cys His Leu Cys
 1 5 10 15
 Gln Gly Tyr Phe Asp Gly Pro Leu Tyr Pro Glu Met Ser Asn Gly Thr
 20 25 30
 Leu His His Tyr Phe Val Pro Asp Gly Asp Tyr Glu Glu Asn Asp Asp
 35 40 45
 Pro Glu Lys Cys Gln Leu Leu Phe Arg Val Ser Asp His Arg Arg Cys
 50 55 60
 Ser Gln Gly Glu Gly Ser Gln Val Gly Ser Leu Leu Ser Leu Thr Leu
 65 70 75 80
 Arg Glu Glu Phe Thr Val Leu Gly Arg Gln Val Glu Asp Ala Gly Arg
 85 90 95
 Val Leu Glu Gly Ile Ser Lys Ser Ile Ser Tyr Asp Leu Asp Gly Glu
 100 105 110
 Glu Ser Tyr Gly Lys Tyr Leu Arg Arg Glu Ser His Gln Ile Gly Asp
 115 120 125
 Ala Tyr Ser Asn Ser Asp Lys Ser Leu Thr Glu Leu Glu Ser Lys Phe
 130 135 140
 Lys Gln Gly Gln Glu Gln Asp Ser Arg Gln Glu Ser Arg Leu Asn Glu
 145 150 155 160
 Asp Phe Leu Gly Met Leu Val His Thr Arg Ser Leu Leu Lys Glu Thr
 165 170 175
 Leu Asp Ile Ser Val Gly Leu Arg Asp Lys Tyr Glu Leu Leu Ala Leu
 180 185 190
 Thr Ile Arg Ser His Gly Thr Arg Leu Gly Arg Leu Lys Asn Asp Tyr
 195 200 205
 Leu Lys Val
 210

<210> 13
 <211> 2020
 <212> DNA
 <213> Homo sapiens

<400> 13
 ggccggagg ggcagtcgcc gcgggggcga gcgcgcgatgc gccttcctgg gacccacggc 60
 aggcgcgaat cccaacggcc ggcgggcggc ggggatactt ctacatagac ataatcaagt 120
 ttgactatt tggaaccacaa gcatcattaa aattctctca aactcctaatt tgccaagaat 180
 ccataacatt tcaagaagtgc ataacatttc tctgaacaag aaaagaagtgc attgaccacg 240
 ttttaaaagt actctggcac tgggtgctgtg ttttcttccc ctccctaaat ttgaagaact 300
 atggagaaat ggtacttgat gacagtagtg gttttaatat gactaacagt acgatggaca 360
 gtgtctctta attcttattc aggtgctggt aaaccgccta tgtttggtga ttatgaagct 420

11.

```

cagagacact ggcaagaaat aacttttaat ttaccgggtca aacaatggta ttttaacagc 480
agtgataaca atttacagta ttgggggattg gattaccacac ctcttacagc ttatcatagt 540
ctcctatgtg catatgtggc aaagtttata aatccagact ggattgctct ccatacatca 600
cgtggatatg agagtcaggc acataagctc ttcattgcgt caacagtttt aattgctgat 660
ctgctgattt acatacctgc agtgggtttg tactgttggt gcttaaaaga aatctcaact 720
aagaaaaaga ttgctaattgc attatgcacg ttgctgtatc caggccttat tcttatagac 780
tatggacatt tccaatataa ttctgtgagt cttggctttg ctttgtgggg tgttcttgga 840
atatcttgtg actgcgacct cctaggggtca ctggcatttt gcttagctat aaattataaa 900
cagatggaac tttaccacgc cttgccattt ttttgccttt tacttggcaa gtgttttaaa 960
aaaggcctca aaggaaaggg gtttgtgtkg ctagttaagc tagctkgtat tgttgtggct 1020
tccttcgttc tctgctggct gccattcttt acagaaaggg aacaaaccct gcaggttcta 1080
agaagactct tcccggttga tcgtggatta tttgaggata aagtagccaa tatttggtgc 1140
agcttcaatg tctttctgaa gattaaggat attttgccac gtcacatcca attaataatg 1200
agcttttgtt ttacgttttt gagcctgctt cctgcattga taaaattaat acttcagccc 1260
tcttccaaag gattcaaatt tacactgggt agctgtgctc tatcattctt tttattttct 1320
ttccaagtac atgaaaaatc cattctcttg gtgtcactac cagtctgctt agtttttaag 1380
gaaattcctt ttatgtctac ttgggtttta cttgtgtcaa catttagtat gctacctctt 1440
ctattgaagg atgaactcct aatgccctct gttgtgacaa caatggcatt ttttatagct 1500
tgtgtaactt cctttttcaat atttgaaaag acttctgaag aagaactgca gttgaaatcc 1560
ttttccattt ctgtgaggaa atatcttcca tgtttwacat ttctttccag aattawacaa 1620
tatttgtttc ttatctcagt catcactatg gtgcttctga cgttgatgac tgtcacactg 1680
gatcctcctc agaaactacc ggacttgttt tctgtattgg tgtgtttkgt atcttgcttg 1740
aacttctgtt tcttcttggg atactttaac attattatta tgtgggattc caaagtgga 1800

agaaatcaga agaaatcag ctagctgtat tcctaaacaa attgtttcct aaacaaatgt 1860
gaaatgtga acagtgtga aagggtttgt gaactttttg ctatgtataa atgaaattac 1920
cattttgaga accatggaac cacaggaaag gaaatgggtg aaagtcattg ttgtctacac 1980
maaataaatg tatatggaga ccaaaaaaaaa aaaaaaaaaa 2020

```

<210> 14
 <211> 507
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (230)

<220>
 <221> UNSURE
 <222> (236)

<220>
 <221> UNSURE
 <222> (432)

<220>
 <221> UNSURE
 <222> (439)

<220>
 <221> UNSURE
 <222> (476)

<400> 14
 Met Glu Lys Trp Tyr Leu Met Thr Val Val Val Leu Ile Gly Leu Thr
 1 5 10 15

Val Arg Trp Thr Val Ser Leu Asn Ser Tyr Ser Gly Ala Gly Lys Pro
 20 25 30

Pro Met Phe Gly Asp Tyr Glu Ala Gln Arg His Trp Gln Glu Ile Thr
 35 40 45
 Phe Asn Leu Pro Val Lys Gln Trp Tyr Phe Asn Ser Ser Asp Asn Asn
 50 55 60
 Leu Gln Tyr Trp Gly Leu Asp Tyr Pro Pro Leu Thr Ala Tyr His Ser
 65 70 75 80
 Leu Leu Cys Ala Tyr Val Ala Lys Phe Ile Asn Pro Asp Trp Ile Ala
 85 90 95
 Leu His Thr Ser Arg Gly Tyr Glu Ser Gln Ala His Lys Leu Phe Met
 100 105 110
 Arg Thr Thr Val Leu Ile Ala Asp Leu Leu Ile Tyr Ile Pro Ala Val
 115 120 125
 Val Leu Tyr Cys Cys Cys Leu Lys Glu Ile Ser Thr Lys Lys Lys Ile
 130 135 140
 Ala Asn Ala Leu Cys Ile Leu Leu Tyr Pro Gly Leu Ile Leu Ile Asp
 145 150 155 160
 Tyr Gly His Phe Gln Tyr Asn Ser Val Ser Leu Gly Phe Ala Leu Trp
 165 170 175
 Gly Val Leu Gly Ile Ser Cys Asp Cys Asp Leu Leu Gly Ser Leu Ala
 180 185 190
 Phe Cys Leu Ala Ile Asn Tyr Lys Gln Met Glu Leu Tyr His Ala Leu
 195 200 205
 Pro Phe Phe Cys Phe Leu Leu Gly Lys Cys Phe Lys Lys Gly Leu Lys
 210 215 220
 Gly Lys Gly Phe Val Xaa Leu Val Lys Leu Ala Xaa Ile Val Val Ala
 225 230 235 240
 Ser Phe Val Leu Cys Trp Leu Pro Phe Phe Thr Glu Arg Glu Gln Thr
 245 250 255
 Leu Gln Val Leu Arg Arg Leu Phe Pro Val Asp Arg Gly Leu Phe Glu
 260 265 270
 Asp Lys Val Ala Asn Ile Trp Cys Ser Phe Asn Val Phe Leu Lys Ile
 275 280 285
 Lys Asp Ile Leu Pro Arg His Ile Gln Leu Ile Met Ser Phe Cys Phe
 290 295 300
 Thr Phe Leu Ser Leu Leu Pro Ala Cys Ile Lys Leu Ile Leu Gln Pro
 305 310 315 320
 Ser Ser Lys Gly Phe Lys Phe Thr Leu Val Ser Cys Ala Leu Ser Phe
 325 330 335
 Phe Leu Phe Ser Phe Gln Val His Glu Lys Ser Ile Leu Leu Val Ser
 340 345 350
 Leu Pro Val Cys Leu Val Leu Ser Glu Ile Pro Phe Met Ser Thr Trp
 355 360 365

Phe Leu Leu Val Ser Thr Phe Ser Met Leu Pro Leu Leu Leu Lys Asp
 370 375 380
 Glu Leu Leu Met Pro Ser Val Val Thr Thr Met Ala Phe Phe Ile Ala
 385 390 395 400
 Cys Val Thr Ser Phe Ser Ile Phe Glu Lys Thr Ser Glu Glu Glu Leu
 405 410 415
 Gln Leu Lys Ser Phe Ser Ile Ser Val Arg Lys Tyr Leu Pro Cys Xaa
 420 425 430
 Thr Phe Leu Ser Arg Ile Xaa Gln Tyr Leu Phe Leu Ile Ser Val Ile
 435 440 445
 Thr Met Val Leu Leu Thr Leu Met Thr Val Thr Leu Asp Pro Pro Gln
 450 455 460
 Lys Leu Pro Asp Leu Phe Ser Val Leu Val Cys Xaa Val Ser Cys Leu
 465 470 475 480
 Asn Phe Leu Phe Phe Leu Val Tyr Phe Asn Ile Ile Ile Met Trp Asp
 485 490 495
 Ser Lys Ser Gly Arg Asn Gln Lys Lys Ile Ser
 500 505

<210> 15
 <211> 940
 <212> DNA
 <213> Homo sapiens

<400> 15
 gtttgagggt gcttgccctta gagcaagggga aacagctctc attcaaagga actagaagcc 60
 tctccctcag tggtagggag acagccagga gcggttttct gggaactgtg ggatgtgccc 120
 ttggggggccc gagaaaacag aaggaagatg ctccagacca gtaactacag cctgggtgctc 180
 tctctgcagt tctgtctgct gtcctatgac ctctttgtca attccttctc agaactgctc 240
 caaaagactc ctgtcatcca gcttgtgctc ttcacatcc aggatattgc agtcctcttc 300
 aacatcatca tcatttttct catgtttctc aacaccttcg tcttccaggc tggcctgggc 360
 aacctcctat tccataagtt caaagggacc atcatcctga cagctgtgta ctttgccctc 420
 agcatctccc ttcattgtctg ggtcatgaac ttacgctgga aaaactccaa cagcttcata 480
 tggacagatg gacttcaaatt gctgttttga ttccagagac tagtttggac cgaattctaa 540
 tttttcttga ctacaagtct tcaaaataat gttttcattt ttttcttctt ttttccattt 600
 ttttccaatt tggagtcact gaaaactaag ctgtgctttc ataaagccct gcaaactgaa 660
 tctagacaac ttcagaagaa aaataacagc aacctattta catacataag ccactttcat 720
 acctgcctac cgatgtatgg acttcagagt aatgtggctt atagcaattt tccaggattg 780
 ttcttttgtt tgttgttgtt ctcccttctt cccctattt tgtctttatg ggacatgaca 840
 cttcacaacc ttctaataat gagttttctt aataactcag gacctactcg tctagaaata 900
 aaccatccta gccatgagag ataagataaa aaaaaaaaaa 940

<210> 16
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 16
 Met Leu Gln Thr Ser Asn Tyr Ser Leu Val Leu Ser Leu Gln Phe Leu
 1 5 10 15

14

Leu Leu Ser Tyr Asp Leu Phe Val Asn Ser Phe Ser Glu Leu Leu Gln
 20 25 30
 Lys Thr Pro Val Ile Gln Leu Val Leu Phe Ile Ile Gln Asp Ile Ala
 35 40 45
 Val Leu Phe Asn Ile Ile Ile Ile Phe Leu Met Phe Phe Asn Thr Phe
 50 55 60
 Val Phe Gln Ala Gly Leu Val Asn Leu Leu Phe His Lys Phe Lys Gly
 65 70 75 80
 Thr Ile Ile Leu Thr Ala Val Tyr Phe Ala Leu Ser Ile Ser Leu His
 85 90 95
 Val Trp Val Met Asn Leu Arg Trp Lys Asn Ser Asn Ser Phe Ile Trp
 100 105 110
 Thr Asp Gly Leu Gln Met Leu Phe Val Phe Gln Arg Leu Val Trp Thr
 115 120 125
 Glu Phe
 130

<210> 17
 <211> 1348
 <212> DNA
 <213> Homo sapiens

<400> 17
 gctgcttgca ggaattcaac atcatggaaa agaataaagg atgggctctc ctgggaggaa 60
 aagatggcca tcttcaggga ctatttctcc ttgccaacgc attgctggaa agaaatcagc 120
 tccttgca caaaggtcatg tacttattag tccctcttct taaccgaggg aatgataaac 180
 ataaactcac atctgcaggc ttttttggtg agcttctccg gagtccagtg gccaagagac 240
 tgcccagcat atactctggt gcccgcttta aagactgggt acaagatgga aatcatctct 300
 ttagaattct cggcctgagg ggactgtaca atcttggttg acaccaggag atgagagaag 360
 acatcaagag cctggttgcca tacattgtag acagcttgcg tgaaaccgat gagaagatcg 420
 ttctgtcagc catccagata ctcttgcaac ttgttagaac aatggatttc actaccctgg 480
 ctgccatgat gaggaccctg ttctccttat ttggtgatgt gagatctgat gttcatcggt 540
 tctccgtgac tctctttgga gccgccataa agtctgtaaa aaaccagat aagaagagta 600
 tagagaacca agtcctggac agcttggtcc cactacttct gtattctcag gatgaaaatg 660
 atgcagtagc tgaggagagc aggcaagtcc taactatatg tgcccagttc ctgaagtggg 720
 agctgcccc aagaagtgtac tccaaagatc cctggcacat caaacctact gaagcaggaa 780
 caatctgcag attctttgaa aaaaagtgca aggggaaaat taacatccta gaacaaacac 840
 tgatgtactc caagaacca aaacttccca tcagaagatc agcagtcttg tttgtaggcc 900
 ttttatcgaa gtacatggat cacaatgagc tcaggaggat gggtactgac tggatagagg 960
 acgatctgag agacctgctg tgtgacctg agccctcgct gtgcatcatc gcttcccaga 1020
 ctctgttact agtccagatg gcgagggccg aaccaaacc taagcagaga gtgaactggt 1080
 tgcagaagct catgggcagg tctctgcct agaaacacaa ggcaagcaac atcagagaca 1140
 gaatcttgct atgttggtgc gcaagctagt cttgaactca tggcctcaag tcatcctcct 1200
 gtgtcagcct cccaaagtgc tgggattaca agcatgcacc acggcaccca gcagaattcc 1260
 agtcttgaga aacaggtcaa ggacagcttc aaaagagatt ctaaataaat gttaatgtta 1320
 caatgttaaa aaaaaaaaaa aaaaaaaa 1348

<210> 18
 <211> 362
 <212> PRT
 <213> Homo sapiens

<400> 18

15.

Met Glu Lys Asn Lys Gly Trp Ala Leu Leu Gly Gly Lys Asp Gly His
 1 5 10 15
 Leu Gln Gly Leu Phe Leu Leu Ala Asn Ala Leu Leu Glu Arg Asn Gln
 20 25 30
 Leu Leu Ala Gln Lys Val Met Tyr Leu Leu Val Pro Leu Leu Asn Arg
 35 40 45
 Gly Asn Asp Lys His Lys Leu Thr Ser Ala Gly Phe Phe Val Glu Leu
 50 55 60
 Leu Arg Ser Pro Val Ala Lys Arg Leu Pro Ser Ile Tyr Ser Val Ala
 65 70 75 80
 Arg Phe Lys Asp Trp Leu Gln Asp Gly Asn His Leu Phe Arg Ile Leu
 85 90 95
 Gly Leu Arg Gly Leu Tyr Asn Leu Val Gly His Gln Glu Met Arg Glu
 100 105 110
 Asp Ile Lys Ser Leu Leu Pro Tyr Ile Val Asp Ser Leu Arg Glu Thr
 115 120 125
 Asp Glu Lys Ile Val Leu Ser Ala Ile Gln Ile Leu Leu Gln Leu Val
 130 135 140
 Arg Thr Met Asp Phe Thr Thr Leu Ala Ala Met Met Arg Thr Leu Phe
 145 150 155 160
 Ser Leu Phe Gly Asp Val Arg Ser Asp Val His Arg Phe Ser Val Thr
 165 170 175
 Leu Phe Gly Ala Ala Ile Lys Ser Val Lys Asn Pro Asp Lys Lys Ser
 180 185 190
 Ile Glu Asn Gln Val Leu Asp Ser Leu Val Pro Leu Leu Leu Tyr Ser
 195 200 205
 Gln Asp Glu Asn Asp Ala Val Ala Glu Glu Ser Arg Gln Val Leu Thr
 210 215 220
 Ile Cys Ala Gln Phe Leu Lys Trp Lys Leu Pro Gln Glu Val Tyr Ser
 225 230 235 240
 Lys Asp Pro Trp His Ile Lys Pro Thr Glu Ala Gly Thr Ile Cys Arg
 245 250 255
 Phe Phe Glu Lys Lys Cys Lys Gly Lys Ile Asn Ile Leu Glu Gln Thr
 260 265 270
 Leu Met Tyr Ser Lys Asn Pro Lys Leu Pro Ile Arg Arg Ser Ala Val
 275 280 285
 Leu Phe Val Gly Leu Leu Ser Lys Tyr Met Asp His Asn Glu Leu Arg
 290 295 300
 Arg Met Gly Thr Asp Trp Ile Glu Asp Asp Leu Arg Asp Leu Leu Cys
 305 310 315 320
 Asp Pro Glu Pro Ser Leu Cys Ile Ile Ala Ser Gln Thr Leu Leu Leu
 325 330 335

Val Gln Met Ala Arg Ala Glu Pro Lys Pro Lys Gln Arg Val Asn Trp
 340 345 350

Leu Gln Lys Leu Met Gly Arg Ser Ser Ala
 355 360

<210> 19
 <211> 1656
 <212> DNA
 <213> Homo sapiens

<400> 19
 cttctccac cctcgtcgc gtagccatgg cggagccgtc ggcggccact cagtcccatt 60
 ccatctcctc gtcgtccttc ggagccgagc cgtccgcgcc cggcggcgcc gggagcccag 120
 gagcctgccc cgccctgggg acgaagagct gcagctcctc ctgtgcggtg cacgatctga 180
 ttttctggag agatgtgaag aagactgggt ttgtctttgg caccacgctg atcatgctgc 240
 tttccctggc agctttcagt gtcacagtg tggtttctta cctcatcctg gctcttctct 300
 ctgtcaccat cagcttcagg atctacaagt ccgtcatcca agctgtacag aagtcagaag 360
 aaggccatcc attcaaagcc tacctggacg tagacattac tctgtcctca gaagctttcc 420
 ataattacat gaatgctgcc atgggtgcaca tcaacagggc cctgaaactc attattcgtc 480
 tctttctggt agaagatctg gttgactcct tgaagctggc tgtcttcatt tggctgatga 540
 cctatgttgg tgctgttttt aacggaatca cccttctaatt tcttgctgaa ctgctcattt 600
 tcagtgtccc gattgtctat gagaagtaca agaccagat tgatcactat gttggcatcg 660
 cccgagatca gaccaagtca attgttgaaa agatccaagc aaaactccct ggaatcgcca 720
 aaaaaaggc agaataagta catggaaacc agaaatgcaa cagttactaa aacaccattt 780
 aatagttata acgtcgttac ttgtactatg aaggaaaata ctcagtgtca gcttgagcct 840
 gcattccaag cttttttttt taatttgggt ttttctccca tcctttccct ttaaccctca 900
 gtatcaagca caaaaattga tggactgata aaagaactat cttagaactc agaagaagaa 960
 agaatcaaat tcataggata agtcaatacc ttaatgggtg tagagccttt acctgtagct 1020
 tgaaagggga aagattggag gtaagagaga aaatgaaaga acacctctgg gtccttctgt 1080
 ccagttttta gcactagtct tactcagcta tccattatag ttttgccctt aagaagtcatt 1140
 gattaactta tgaaaaaatt atttggggac aggagtgtga taccttcctt ggtttttttt 1200
 tgcagccctc aaatcctatc ttccctgccc acaatgtgag cagctacccc tgatactcct 1260
 tttctttaat gatttaacta tcaacttgat aaataactta taggtgatag tgataattcc 1320
 tgattccaag aatgccatct gataaaaaag aatagaaatg gaaagtggga ctgagagggg 1380
 gtcagcaggc atgctgcggt ggcggtcact ccctctgcca ctatccccag ggaaggaaag 1440
 gctccgccat ttgggaaagt gggttctacg tcaactggaca ccggttctga gcattagttt 1500
 gagaactcgt tcccgaatgt gctttcctcc ctctccctcg ccacactcaa gtttaataaa 1560
 taagggttga cttttcttac tataaaataa atgtctgtaa ctgcaaaaaa aaaaaaaa 1620
 aaaaaaaa aaaaaaaa aaaaaaaa aaaaaa 1656

<210> 20
 <211> 236
 <212> PRT
 <213> Homo sapiens

<400> 20
 Met Ala Glu Pro Ser Ala Ala Thr Gln Ser His Ser Ile Ser Ser Ser
 1 5 10 15
 Ser Phe Gly Ala Glu Pro Ser Ala Pro Gly Gly Gly Gly Ser Pro Gly
 20 25 30
 Ala Cys Pro Ala Leu Gly Thr Lys Ser Cys Ser Ser Ser Cys Ala Val
 35 40 45
 His Asp Leu Ile Phe Trp Arg Asp Val Lys Lys Thr Gly Phe Val Phe
 50 55 60

Gly Thr Thr Leu Ile Met Leu Leu Ser Leu Ala Ala Phe Ser Val Ile
65 70 75 80

Ser Val Val Ser Tyr Leu Ile Leu Ala Leu Leu Ser Val Thr Ile Ser
85 90 95

Phe Arg Ile Tyr Lys Ser Val Ile Gln Ala Val Gln Lys Ser Glu Glu
100 105 110

Gly His Pro Phe Lys Ala Tyr Leu Asp Val Asp Ile Thr Leu Ser Ser
115 120 125

Glu Ala Phe His Asn Tyr Met Asn Ala Ala Met Val His Ile Asn Arg
130 135 140

Ala Leu Lys Leu Ile Ile Arg Leu Phe Leu Val Glu Asp Leu Val Asp
145 150 155 160

Ser Leu Lys Leu Ala Val Phe Met Trp Leu Met Thr Tyr Val Gly Ala
165 170 175

Val Phe Asn Gly Ile Thr Leu Leu Ile Leu Ala Glu Leu Leu Ile Phe
180 185 190

Ser Val Pro Ile Val Tyr Glu Lys Tyr Lys Thr Gln Ile Asp His Tyr
195 200 205

Val Gly Ile Ala Arg Asp Gln Thr Lys Ser Ile Val Glu Lys Ile Gln
210 215 220

Ala Lys Leu Pro Gly Ile Ala Lys Lys Lys Ala Glu
225 230 235

<210> 21

<211> 2439

<212> DNA

<213> Homo sapiens

<400> 21

cgctttttttt ttttttttaa attctctttc aatccattat ccattttata gctacagtgt 60
tttttttcctt aacttgcagt tggttacaat gcgtttatta aattcctatt gtcctgactt 120
ctgtagcaca tcaattccat gtgatctgat gtttgctcct ctttagcctt ctccattata 180
tttcttctct tctgtacattt ttgtttgtcc atcatggttt tgtttttttt ttttttttct 240
ttggctgttc catgctctct gccatctcta gacgtttgta caaactattc ccttgagtta 300
ttttctctgg ctcttcagct ccttctctcc accctctccc ctgcaccacc aatccattct 360
tttgcttaaat ttctctccat ccttcagggt tcagctttta gaggtcactt cttttaggag 420
acattccctg aatcctctca cctccacca caaaaaaggc ctctccagat gcccttcttt 480
tctgctcaaa cctcatctgc ttcctttatc atatgcttat cgttttggat tgtaattatt 540
tatttaattg catgtctttc tgctagtttt tgtgttagca acaacaagga tcatattttt 600
cttggttaact aatgtataac actgggtgcc taccagtaag tatttggtga atgactaaat 660
gagtgaatg agttaaata gtagaaaata tccaggaaag tagctgtttt tttttttttt 720
acagtacctt tgctgttgat tccctgcccc actttttttg gtagaagtga taagctaaaa 780
tctattttca tgaatcattg tatatgttgt tctaagtgg gattcatatt cattccagtc 840
cattatttat atttttcagg ctggcttatt tattgacaaa ggtgtcaaaa caaccaactc 900
tagtgctgct gacccaaggg aatacctctg tttggacaat aatgcaaggt aaagctggct 960
cttttaagtc aactcaagc tatactttgc caaagcaaaa ctttctaact ggagtttatt 1020
gtgctctttc tgtggttaata catttaaaat aaagttttag aagttcgtaa aagggttttt 1080
ggaaaaccac ttattctgtt gtcccaggtc ctgtgactgg tcttttatct tattgaaata 1140
ctaaagaggt tgatgttttt ctcttttttc attggctata aatagatgct agagagagtt 1200
gcagaaagag aaagaaaaaa gaggagatat gttgagaaag tttccaaatt tgggtgtgcag 1260
tatgattcat tgaaaaataa gttaaactaa gatgttttag ctcatccttg aaaaaccaa 1320

```

ccatatagaa tttattcttt gtggtcaaaa tgaatactgc atttaatat tcaaaaggaa 1380
tgcacccaaa tttgatgagc aacctgggtc tgggtcagcc cttttagacc tcagatttac 1440
atcatagcca ggctctaggt tactttcttt tgtaatcaca aaatgcatta ggtatggatc 1500
agcatttcag cagagttctc taacatgcta tatatgagcc aaaataaaga aaatgtccca 1560
gatgaaaata aacttttctg gaaaagatgg tgacttaaag tcatattcag tagaacctgt 1620
gtacatatta ttattttcca tactttcaaa ttgattgacc agtttatgga gttgatagag 1680
tgctagattt aataggcttt gttgacagac acttaggaaa agaataccag gcctgattgt 1740
tcttcaaaga atcaagtagg aagcacacca taggttggtg agcctgactt cagggtgagg 1800
cagattctca caacacttta ataagacatg aggtcagaag aaaactgggg aaagtctagt 1860
ttgtcttgag gattcctcaa acatcaagtt gagcctgaaa tatgttgatg caatgatcag 1920
atagcatttg agaaaccag aaactgtggg cgttttaaaa aataaaacac aaagaactgg 1980
atacctaaaa gctgatcaac aaatgaagtg aaaaaataga agagataaac ttaagaagaa 2040
aaaagagtat atagatgaca ataaattatg aactaaggag agaattatag ctggcaaata 2100
aagaattcta tctagaaggt tactgctgct tttttagctt tgaagagttt attataattg 2160
gtagaactaa tataatttat tataattggt agaaagtaat gtgttctttg ctttagcattg 2220
ccaaaaaatc cataaacaca attggttctc ttccctgcct taaaaactta tttatgtata 2280
tatatttatg tatatttata gtaatgtgta tgtgtatata tgtgaatata tgtgtgtata 2340
tatatgaata gagtaaatat atttgagttc attgatgttt taattagact tgacaataaa 2400
acaatttact cataaaaaaa aaaaaaaaaa aaaaaaaaaa 2439

```

<210> 22
 <211> 47
 <212> PRT
 <213> Homo sapiens

```

<400> 22
Met Pro Phe Phe Ser Ala Gln Thr Ser Ser Ala Ser Phe Ile Ile Cys
  1              5              10              15
Leu Ser Phe Trp Ile Val Ile Ile Tyr Leu Ile Ala Cys Leu Ser Ala
      20              25              30
Ser Phe Cys Val Ser Asn Asn Lys Asp His Ile Phe Leu Val Asn
      35              40              45

```

<210> 23
 <211> 1132
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (1009)

```

<400> 23
attctagacc tgcggccttg aaaagacagt agtggggaaa aaaagtacca ttttaccatg 60
tgccctcaagt ttgtaatact ggttgcttaa acacccttcc cttccacggt gggattttct 120
cttcactttc ccttgaggag ctcaaataaa taagttacag tttgacagca gcagcagagc 180
ataagatttt atgaatgtga aaccattatg atctttttat ttacttagaa aatttaagtg 240
tgtgataatc tttttaatag ttcatttttc tacatctatt tctgatttca tgttgcaact 300
atgtcatgca aaaagacagt agatattgta agattgtctt caacagttga aattcaggct 360
tgccctttta cagtagattt catttatagt ttatacagat aaatgagaac taatataaaa 420
tagtaatttt gttatggcat tatggtatat tttaaattca tcaagctcat ctgtatgtgt 480
ctttttgtcc ttttactact gagaggattg gggctgggat catggcagcc tgctctgatg 540
tatttctctc cactctattt tattattttt ttaaagagtt ctaacttaaa tacgtggacc 600
agctattgga taactttaat tcatatattt atcattcttt ctattcactt tgccacatac 660
acaccatgtg atgattttta acccgatttc tgtatagaga atgttaaaag gatggcgttt 720
ttcagagggt ccaaataagg agacattgac aatatagttg cacagtatat ggaatacgta 780
tatgtataga catatatata cacatatata tacagatata catatatatt tctatgtata 840
cacatatata tatatcatat atgtacacat atgcatattg catatactgt gcaatatata 900
tatacacaca caatttccca gttcgtattt ttcattatgt catgtacctt attgatagct 960

```

19

attattatat ggcttatgca tactgatttg aaataaaciaa ttttacttng aaaaaaaaaa 1020
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1080
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1132

<210> 24
 <211> 98
 <212> PRT
 <213> Homo sapiens

<400> 24
 Met Val Tyr Phe Lys Phe Ile Lys Leu Ile Cys Met Cys Leu Phe Val
 1 5 10 15
 Leu Leu Leu Leu Arg Gly Leu Gly Leu Gly Ser Trp Gln Pro Ala Leu
 20 25 30
 Met Tyr Phe Ser Pro Leu Tyr Phe Ile Ile Phe Leu Lys Ser Ser Asn
 35 40 45
 Leu Asn Thr Trp Thr Ser Tyr Trp Ile Thr Leu Ile His Ile Phe Ile
 50 55 60
 Ile Leu Ser Ile His Phe Ala Thr Tyr Thr Pro Cys Asp Asp Phe Lys
 65 70 75 80
 Pro Asp Phe Cys Ile Glu Asn Val Lys Arg Met Ala Phe Phe Arg Gly
 85 90 95

Ser Lys

<210> 25
 <211> 401
 <212> DNA
 <213> Homo sapiens

<400> 25
 gaatcatagt gattaaaata gttggggtaa agttgtagct tatatgcaat actacttgga 60
 ggaattcttc tactaatttg tatttaaatgt ggaaattgta tagtttcatt gatttaaatca 120
 taaataatgg aaatgggtctc caagaagttt tatttttcat ttttttgctt atacactctg 180
 attcctataa tacagtgcta taagctatgc acagaaaata aaatgtttga aatccaagaa 240
 taatgggttct tactgctaag agggagtaat agttattact aatgattttg attgggttgc 300
 atttttgttg caatgtttat tccacttgca gttagaatat gaatatgttt tatcactagt 360
 gtgggctaaat aaccaaacat ttgtgtaaaa aaaaaaaaaa a 401

<210> 26
 <211> 38
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Glu Met Val Ser Lys Lys Phe Tyr Phe Ser Phe Phe Cys Leu Tyr
 1 5 10 15
 Thr Leu Ile Pro Ile Ile Gln Cys Tyr Lys Leu Cys Thr Glu Asn Lys
 20 25 30
 Met Phe Glu Ile Gln Glu
 35

<210> 27
 <211> 755
 <212> DNA
 <213> Homo sapiens

<400> 27
 aaccgccacc ttctaaccatt taaggtagta gacagtatat acagatttga accttgcttt 60
 ttacacataat agatagttga ggtcattcca tagcagtaca cagaaactca tctttgggtct 120
 taaaactgca taggtacttt agtcctcttt gacaaatggt gggttgtttc agtcttctgc 180
 tatcacaaat aatgctgcaa agaatacatt tgttcatatg tcatttcac cttggcaatt 240
 ttgcctctgg aaagtcccta gaagtcagat tcccaggtca aagggttaaat gcgcatgtaa 300
 ttttgctgga tattgttaaa tccccctaca gagcatgcac cactcagcat tccccctcagc 360
 gttgtatgag agggaccatt tctccatggc ctcaccagca gatttggtta ttgtagctct 420
 gggcttttac caatttcaca ggttaaaaat agtatctaag acaggcgtgg cggctcatgc 480
 ctgtaatccc agcactttga gaggccgagg aaggcagatc actggaggtc aggagttcga 540
 gatcatccta gccaacatgg tgaaatcctg tctctactaa aaacataaaa attagctggg 600
 catggtggca catgcctgta atcccagcta ctcaggaggc tgaggaagga gaatatcagg 660
 aacctgggag gcaggggttg cagtgagcag agatagcgcc actccactcc agcctggggc 720
 acagagttag actctgtctc aaaaaaaaaa aaaaa 755

<210> 28
 <211> 86
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Leu Gly Cys Phe Ser Leu Leu Leu Ser Gln Ile Met Leu Gln Arg
 1 5 10 15
 Ile His Leu Phe Ile Cys His Phe Ile Leu Gly Asn Phe Ala Ser Gly
 20 25 30
 Lys Phe Leu Glu Val Arg Phe Pro Gly Gln Arg Leu Asn Ala His Val
 35 40 45
 Ile Leu Leu Asp Ile Val Lys Ser Pro Tyr Arg Ala Cys Thr Thr Gln
 50 55 60
 His Ser Pro Gln Arg Cys Met Arg Gly Thr Ile Ser Pro Trp Pro His
 65 70 75 80
 Gln Gln Ile Trp Leu Leu
 85

<210> 29
 <211> 885
 <212> DNA
 <213> Homo sapiens

<400> 29
 cgcccagatc caagattctt cccaggaaca caaacgtagg agacccacgc tcctggaagc 60
 accagccttt atctcttcac cttcaagtcc cctttctcaa gaatcctctg ttctttgccc 120
 tctaaagtct tggtacatct aggaccagg catcttgctt tccagccaca aagagacaga 180
 tgaagatgca gaaaggaaat gttctcctta tgtttgggtc actattgcat ttagaagctg 240
 caacaaattc caatgagact agcacctctg ccaacactgg atccagtgtg atctccagtg 300
 gagccagcac agccaccaac tctgggtcca gtgtgacctc cagtggggtc agcacagcca 360
 ccatctcagg gtccagcgtg acctccaatg gggtcagcat agtcaccaac tctgagttcc 420
 atacaacctc cagtgggatc agcacagcca ccaactctga gttcagcaca gcgtccagtg 480
 ggatcagcat agccaccaac tctgagtcca gcacaacctc cagtggggcc agcacagcca 540
 ccaactctga gtccagcaca cctccagtg gggccagcac agccaccaac tctgactcca 600
 gcacaacctc cagtggggct agcacagcca ccaactctga ctccagcctg ggcaacaaga 660

21

gtggaactct gtttcaaaaa agaaagaaag aaattcagct cccacttaaa gttcagttgt 720
 actctgttat tgacaagtaa agtcgattga agcccagtc tctcctgtat gttgtgtgac 780
 ttctcataat tatctgatca agagtcttga agaaacattt acaatttgat gggcaataaa 840
 ataatttgaa agcaagaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 885

<210> 30

<211> 186

<212> PRT

<213> Homo sapiens

<400> 30

Met Lys Met Gln Lys Gly Asn Val Leu Leu Met Phe Gly Leu Leu Leu
 1 5 10 15

His Leu Glu Ala Ala Thr Asn Ser Asn Glu Thr Ser Thr Ser Ala Asn
 20 25 30

Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser
 35 40 45

Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala Thr Ile Ser Gly
 50 55 60

Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val Thr Asn Ser Glu Phe
 65 70 75 80

His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser
 85 90 95

Thr Ala Ser Ser Gly Ile Ser Ile Ala Thr Asn Ser Glu Ser Ser Thr
 100 105 110

Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Pro
 115 120 125

Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser
 130 135 140

Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Leu Gly Asn Lys
 145 150 155 160

Ser Gly Thr Leu Phe Gln Lys Arg Lys Lys Glu Ile Gln Leu Pro Leu
 165 170 175

Lys Val Gln Leu Tyr Ser Val Ile Asp Lys
 180 185

<210> 31

<211> 3285

<212> DNA

<213> Homo sapiens

<400> 31

gcaggtggct aaccccattt agcatctcca ggccctgcca tgggtgtctca tcttgcgtgtt 60
 atctctagct ctttccctcc tcccatttcc ttttagtagt gaattttgca aagctttagt 120
 cagtagctca gttgcctgca gcatccttgt gtgtagataa attagtcgac agaaactcag 180
 cactggggac aggattgcaa agtcggggac atagatgcag acagttgttg agatttgggg 240
 atagccgggc ttgtgagcgg tgcccatttc cagatgaagc ctttcagccc ttctgagtc 300
 ccggcccttg gtgcgatgtc tgtgagtttg acctgccag cgtgtgggct ggctcaatgc 360
 tgaataaagt gggtttgtgt cagctcgttt gcttcgtctc cgtgtgtcca cctggcctct 420
 tcccctgccc ctggccaccc tccagtgtca aaggaaactt cctcgtgaca cgtgctaaag 480

```

catggtgagg aggactttga ttgggacccat tgagatgggt gtgggaccct ttccttgggg 540
cctgggggga gatggggctc caccgacg tagcagggca ggggttggag gagcgaggag 600
cagtataagg tccatgggtg ggaatgactg tgaggagaca tcagggtcga gggggctctg 660
gctaaaccca cctcacagag tccttgctgc aggcaggcag ggcgatcaga cattggctgc 720
aaacggtcag agaggaaccc agtcaggtag cattgagggt ggtcagatat tatggttaac 780
caaattagggt ttcttgctaa aactggattt cataagaaag ggcaaagagg gccctaggag 840
aagattccag agcctggcca gagtttggcc aagtagagaa tctttgtcag cacgccaaca 900
acatcccgac cctgagacct ccagtttgtc tttctcactg tctccgctg ctgcagtctg 960
ctgtcatccc tgagcatccc tgcccctgcc ctgcacacct gtgatgcttg cccggacagg 1020
tcctgatggc agagtctccc acaacatcag tgtctccaca tcaccaggtc cgacagtggc 1080
ttcaccatcc tcacctaacc tagctgacca gcaacatccc accctgtcaa tcacaacctc 1140
tttctattta agaaaattat atatttatgg ggcacagtgt gatgttttga tatctatgta 1200
cattgtggag tgacagatta atgtatccat ctcatgtttt tttttgggtg tgagaatatt 1260
tgaaatctac actcagcaat ttcaaataca gtcacccctc tgtgcctaag ggggattggg 1320
tccaggaccc cctcatggat accaaaatct gcagatactc aagtaccctg cagtacggcc 1380
tccctctgca catatgtggg acagtcagat acagagggcc aactgcgtac agtacacggg 1440
tatcagctga agtcaccatg ctgtgcaata gacottgagt ttattcttgt atagcagggg 1500
ctctgtaccc tctgactaga atttcccaa atcctcttgt ctacgcccct gctaaccacc 1560
gttctactct ctaattctat aaatcaacat tttgattcca catataagt agatcatgtg 1620
atatttgtcc tgttccctggc ttatttccact taatataaat gtcctgtaaa ttcacccatg 1680
ttgcaaattg cagggtttcc ttttttatgg ccaaatagta ttccatgatg tgtatacacc 1740
acattttctt aagccattta tccactttat ccttttatca ctttgcttct agaccacgta 1800
ggttgattcc gtatcttgac tgttgtaaaa gtgctcttaa gaaacacagg agtgtgggta 1860
tctcttccat atatttcatg cgtttccctt gggaaaatac ttacagtagg gattgctggg 1920
tcacggtagt ctttttaagt ttttgaataa cctccatag cttctccata atggctataa 1980
taatttcat actcaccaac atttattttc tttgaaatta gtcattctaa gaagtgtgag 2040
ataatctcat tgtgatttgg tttacgtttc cctgatgatt aatgatgttg agcatttttt 2100
tatatacctg ttggccattg gtatgtcttc ttttgagaag tgtctcttca ggttctttgc 2160
tcatttttta gtcttttatt tgctttccctg ctattgagtt tgagttccat gtatattttg 2220
gatattaacc cctacttaa tgtatggttt gcaaatactc tatcccaatt tgtgagttgt 2280
cttcaactctg tttatgattt cctttgctgt gcagaagctt tttagctcta tgcaatcatg 2340
tatgtttatt tttcttttgt tgcttgtgct tttagggtca tatgcaagaa gtgatacaac 2400
cctgaaacct aggcagtggt catggagttt ttcacctgtg ttttcttcta ctggctttac 2460
agtttcaggc cttacaatta agcccttgct tattttgaat ggatttttgt gtagggacat 2520
tccctccaca agggcttcc ctggccttgc tgatgctcct ccgtctccct tgtgtcctct 2580
ccactccacc ctcttcatgt ggaagaaccc ttggcatcct cgtgtggcct ctctgtccta 2640
tccagccccc catggtgacc tcacacttgc ctctctgacg tgggtctctc tcccaaacc 2700
tcttccaggt ccaaccactg cctccatccc agacttgccc aggggccc aa tccctgcagt 2760
cctcagacat ctccagagctg tctctgagtt gttttctcta acagtccaca ataggtctgc 2820
aaaggaatcc tgcaggctct tctgtagcc aaagacctg acctcatctt acctgctccc 2880
cgccagtcct ccaccgtggc cactggcac gtctcttctc tgcccaggag acctggggac 2940
ctcatctcct ccgctgctc caacaatgca ttctcaaccc agcaggtaga tgggtttcta 3000
ctttaaaata tgtaggatga accagtctgg tgatccgat tacaacagga ggaatgtagg 3060
taataaaatt gcaactgtttt gggagttcct gctaaatgac tagacttcag ctgctcttgc 3120
cacaaaatcc taaaagtggg tgactctggg aggtgatggg aatgttaatt gctcccctgt 3180
agtgaccatt ttgtatctg tttgtacttt gtaacatcac gttgcatacc ttaaatatac 3240
acaatgaaat ttattaaaac aatgaaaata aaaaaaaaaa aaaaa 3285

```

<210> 32

<211> 184

<212> PRT

<213> Homo sapiens

<400> 32

```

Met Ile Ser Phe Ala Val Gln Lys Leu Phe Ser Ser Met Gln Ser Cys
  1                      5                      10                      15

```

```

Met Phe Ile Phe Leu Leu Leu Leu Val Leu Leu Gly Ser Tyr Ala Arg
      20                      25                      30

```

```

Ser Asp Thr Thr Leu Lys Pro Arg Pro Val Ser Trp Ser Phe Ser Pro
      35                      40                      45

```

Val Phe Ser Ser Thr Gly Phe Thr Val Ser Gly Leu Thr Ile Lys Pro
 50 55 60

Leu Ser Ile Leu Asn Gly Phe Leu Cys Arg Asp Ile Pro Ser Thr Arg
 65 70 75 80

Ala Ser Ser Gly Leu Ala Asp Ala Pro Pro Ser Pro Leu Cys Pro Leu
 85 90 95

His Ser Thr Leu Phe Met Trp Lys Asn Pro Trp His Pro Arg Val Ala
 100 105 110

Ser Leu Ser Tyr Pro Ala Pro His Gly Asp Leu Thr Leu Ala Ser Leu
 115 120 125

Thr Trp Val Ser Leu Pro Asn Pro Leu Pro Gly Pro Thr Thr Ala Ser
 130 135 140

Ile Pro Asp Leu Pro Arg Gly Pro Ile Pro Ala Val Leu Arg His Leu
 145 150 155 160

Arg Ala Val Ser Glu Leu Phe Ser Leu Thr Val His Asn Arg Ser Ala
 165 170 175

Lys Glu Ser Cys Arg Leu Phe Leu
 180

<210> 33
 <211> 1819
 <212> DNA
 <213> Homo sapiens

<400> 33

aaactatatt	tcaagacaac	caaaagttgg	tgaaggaaag	ttgttgatta	gagaattcca	60
actgggttaa	aggtcaaagg	aggccaggcg	cgggtggctca	agcctgtaat	cccagcactt	120
tgggaggccg	aggcagggtg	atcgtgaggt	caggagatca	agaccatcct	ggctaacacg	180
gtgaaacccc	atctctacta	aaaatacaaa	aaattcgccg	ggcgtgggtg	caggcgccctg	240
tagtcccagc	tactcaggag	gctgaggcag	gagaatggct	tgaacccggg	aggcggagct	300
tgcagtgagc	cgagatcgcg	ccactgcact	ccagcctggg	tgacagaccg	agactctgtc	360
tcaaacaaaa	aacaaaaaac	aaaacaaaaac	aaagatcaaa	tgaatgatag	aatttgaaaa	420
ctacgctctt	taattttaca	aatcatgga	ttttcgtggt	gatagcaatg	gatgcgaaga	480
ccattaggtg	aaaaatggat	aggaagctta	taatgcatgg	agcagaatga	caggacacta	540
atctatatta	acatctctaa	atgagatcag	ccagatgaac	ttgatgtgat	gaaatggata	600
cacacagtgg	acacctgtga	agttttcttg	gctcccccaa	aactgagaag	tacaagttag	660
tctccaaacc	taattaccag	tttacaggaa	acatggggaa	taaaagaaca	aattaacaac	720
acaaagaagc	aaacaaccaa	atgcacaatt	tgggaaattc	tgcagaagta	atggcctagt	780
tttttaacca	atacatgtca	aaaaaaaaaa	aaaaaaagac	aaaaatggaa	tcctacactt	840
taaaggagac	taagaaacgt	atccttcaaa	tacagtgtat	ggagcatttt	aggatccttg	900
tgttaaaatg	cgcttgggat	ttgttttaat	caatcatggt	gagacaggca	gacatggaaa	960
ttattgtcat	gaaggaagaa	gtttatacgc	agatcccaca	aacgggaggc	atggcatggc	1020
atgcagggtc	acgtaaagaa	gcacctgggt	gtatcaggag	gcagagggtg	agagcacagc	1080
atggcccaga	gcttttattg	ggggttttca	tgggaaggaa	tggacaaggc	aggggtaggc	1140
acactggtaa	gcttaggatt	gaatagtttg	agtaattttg	ttggtctctg	ggatctaggg	1200
gggattcgta	attgtctagt	tagggcaggg	gaatattgaa	ttggtgtatg	agagtttggt	1260
aaaggagata	gttgggagta	tgggctctgg	attggttggt	ttgtatatga	aaggcatgct	1320
tgcagtggag	tttatcatct	atgcattagc	ttgccctggg	aggggcagcc	tatccaggat	1380
caaggcccca	agtggccaga	gcatacaggaa	tacagaaaat	aaagaaaaca	tagtcaatac	1440
aagatttgaa	ggaataaaat	gtctctacat	attgtacaaa	tgtaaacatg	gattgggttac	1500
taaagtatac	gaaataattt	attgttcata	tgtaggcat	gactatggca	ttatgggtat	1560
atgtgtatga	gtccttaagt	gttagagatt	catactgagg	tatttaaggc	tgaaatgtta	1620

24.

tgcctgtgat ttacttttaa atacttaaaa acaaaagggtg ggagggatag atgaaacaag 1680
 attagcaaaa tgttggtaaa tgtttaatct ggatcattag gtacacaggg ttcattgtgc 1740
 cgttcttact atctttacat atattttaaa ttttcataa taaagttttt taaagtagaa 1800
 aatcaaaaaa aaaaaaaaaa 1819

<210> 34

<211> 75

<212> PRT

<213> Homo sapiens

<400> 34

Met Gly Ser Gly Leu Val Gly Leu Tyr Met Lys Gly Met Leu Ala Val
 1 5 10 15

Glu Phe Ile Ile Tyr Ala Leu Ala Cys Pro Gly Arg Gly Ser Leu Ser
 20 25 30

Arg Ile Lys Ala Pro Ser Gly Gln Ser Ile Arg Asn Thr Glu Asn Lys
 35 40 45

Glu Asn Ile Val Asn Thr Arg Phe Glu Gly Ile Lys Cys Leu Tyr Ile
 50 55 60

Leu Tyr Lys Cys Lys His Gly Leu Val Thr Lys
 65 70 75

<210> 35

<211> 1269

<212> DNA

<213> Homo sapiens

<400> 35

gcggaggcgg cgcggtggct gatcagagcg cgtagggcct cgccggggcc gggagctggg 60
 cgcggtcctg ctcagcccag ctcaccgcgc gccggccctc ggcgccctgg ttctgcggat 120
 caggagaaaa taatgaatgt caaaggaaaa gtaattctgt caatgctggg tgtctcaact 180
 gtgatcattg tgttttggga atttatcaac agcacagaag gctctttctt gtggatatat 240
 cactcaaaaa acccagaagt tgatgacagc agtgcacaga agggctgggt gtttctgagc 300
 tggtttaaca atgggatcca caattatcaa caaggggaag aagacataga caaagaaaaa 360
 ggaagagagg agaccaaagg aaggaaaatg acacaacaga gcttcggcta tgggactggg 420
 ttaatccaaa cttgaaggaa tccgaataac taaactggac tctggttttc tgactcagtc 480
 cttctagaag acctggactg agagatcatg cgggttaagga gtgtgtaaca ggcggaccac 540
 ctggtgggac tgcgagattc tcaaggggaa ggactgggtc tcatttctcc catctcagcg 600
 cttagcagga tgacctggta tagagcaggg aactgggaaa tgtgggtcag gggatcagac 660
 actccagttg ggtcttttat ataaattaaa tggcaaaagg ctccataccc ttctccttct 720
 ttctaccct ccactttatc tgcaaaatgg gaatgatgat aacaccact tcatagaatg 780
 gtcataaga tcaaatgaga gaataaaagt caagcactta gcctctgggt cacaataagt 840
 attaaataag tatacctatt cctccttttc cttttttaaa aataatatta ccaaatgtcc 900
 agcttataca catttacaag acttagctag tgggctatgt tagagctact aaaagatctt 960
 tgacaagcta aaactaagat gcaatgaatg aggtgtaacg aacaagagag ttttaagtcc 1020
 agaaatgggt acagaagtat aagacagctg tgtgggtgtt ttttggtttt tggtttctgg 1080
 tttacaatct cgtcattcaa caaagatggg agttttatag aactaaaagc accatgtaag 1140
 ctactaaaaa caacaacaaa aaaggctcat cttttctcag tctgaattga caaaaatgcc 1200
 aatgcaaaata aaaatgatta ctttttattt taaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1260
 aaaaaaaaaa 1269

<210> 36

<211> 100

<212> PRT

<213> Homo sapiens

<400> 36

25

Met Asn Val Lys Gly Lys Val Ile Leu Ser Met Leu Val Val Ser Thr
 1 5 10 15
 Val Ile Ile Val Phe Trp Glu Phe Ile Asn Ser Thr Glu Gly Ser Phe
 20 25 30
 Leu Trp Ile Tyr His Ser Lys Asn Pro Glu Val Asp Asp Ser Ser Ala
 35 40 45
 Gln Lys Gly Trp Trp Phe Leu Ser Trp Phe Asn Asn Gly Ile His Asn
 50 55 60
 Tyr Gln Gln Gly Glu Glu Asp Ile Asp Lys Glu Lys Gly Arg Glu Glu
 65 70 75 80
 Thr Lys Gly Arg Lys Met Thr Gln Gln Ser Phe Gly Tyr Gly Thr Gly
 85 90 95
 Leu Ile Gln Thr
 100

<210> 37
 <211> 232
 <212> DNA
 <213> Homo sapiens

<400> 37
 aaaaaaaga tacttctcca aagtgttctc atgtggcctc acccaggtct tgtgtattat 60
 ttggttaatta atttatggat cttaaaaact gcagtattcc cccattttgt gatgagagtg 120
 tggggctggc aggggttggt tggagggagg agagaagaca gaggagcact taaggtgcaa 180
 agcagcctat ttttcttca ataaaaattg ttaagagaaa aaaaaaaaaa aa 232

<210> 38
 <211> 57
 <212> PRT
 <213> Homo sapiens

<400> 38
 Met Trp Pro His Pro Gly Leu Val Tyr Tyr Leu Val Ile Asn Leu Trp
 1 5 10 15
 Ile Leu Lys Thr Ala Val Phe Pro His Phe Val Met Arg Val Trp Gly
 20 25 30
 Trp Gln Gly Leu Val Gly Gly Arg Arg Glu Asp Arg Gly Ala Leu Lys
 35 40 45
 Val Gln Ser Ser Leu Phe Phe Leu Gln
 50 55

<210> 39
 <211> 1135
 <212> DNA
 <213> Homo sapiens

<400> 39
 ctcaaggcct ggggcagggg cgtttaattg atgatgacag aggacacagg tttttgccag 60
 caaaaaggaa aaccaargct tgggtggaagg gaaaggtggt gtgtcccctg ttccctattc 120
 catctccctg ggacttcctg ctcacatag taccagtgga gccagagat cctactagac 180
 tgggtcagca attctagaga accttcgga atagtctggg aacatggtca aggtggaagg 240

```

ggctccccta gagaggggtgg ggggtgtagtt acttcccagt tggccagaaa actgggcctt 300
gcagaccccc ttagcatttt ttcccttttt ttccctccct gctttctact tctttgggga 360
gcccttgggtg ttttggagtc tgactggagt ctgcgcacct ggggcctgct ccatccatcc 420
ctcctgggctg ccagaccctc catccaagcc ctgtgtcttt ccatagtcag ggtcaggccc 480
tgcattctatt ccaaggggca ctcagtacac attccataaa ttagctgggt gtccctgcac 540
gcccacccca tgaaactcga gcaggtctct ggaagccatt tgttaaaaaa aaaaaaaa 600
gttttaaaaa taccttttaa ttttctggta attccagttc tttgaagcat cctctgctgg 660
gtcttgggggt gtgtggatgg attggctgtc tgatgggatt ggtaaccctt cgctactcaa 720
gatgggggga taaaaacacc ttcaggaag gggagcctgg ttcttctcgt tttccttttt 780
tttttttttt taaaaaaa actattttaat tttttaattt atttttggtt gttttttgca 840
caatgaagtt tcagcttctc aaccttctcc cctaccagg gctgtggacc cagactggcc 900
ttgagccaca gtccctcttt cctcctcac cctcttcccc ctgcgggctc ccgggtctgt 960
ccatttggtta ctgtgctgtg ctggggattg gcgcgaggt ggctgtgat tccacttgtg 1020
tagaactttg ttgagtaaaag atcagtttct tgtgaaaaaa aaaaaaaa aaaaaaaa 1080
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 1135

```

<210> 40

<211> 54

<212> PRT

<213> Homo sapiens

<400> 40

```

Met Lys Phe Gln Leu Leu Asn Leu Leu Pro Tyr Pro Gly Leu Trp Thr
  1             5             10             15

```

```

Gln Thr Gly Leu Glu Pro Gln Ser Leu Phe Pro Ser Ser Pro Ser Ser
  20             25             30

```

```

Pro Cys Gly Leu Pro Gly Leu Ser Ile Cys Tyr Cys Ala Val Leu Gly
  35             40             45

```

```

Ile Gly Ala Glu Val Ala
  50

```

<210> 41

<211> 4292

<212> DNA

<213> Homo sapiens

<400> 41

```

ctcaagttaa accaacaagc cgatagaaaa aggtagttat caagagattt taaaacttca 60
accctttttc tcttatagtt agtgaagaga gtagaatata tccagttttg gctgacatct 120
ctacaacctg aacaattggc ttaaaacttca cttgggattc ccggttgctt gtttttagcat 180
ggcaaaattht ggcgttcaca gaatccttct tctggctatt tctctgacaa agtgtctgga 240
gagtacaaaa ctgctggcag accttaaaaa atgtggtgac ttggaatgtg aagctttaat 300
aaacagagtc tcagccatga gagattatag aggacctgac tgccgatacc tgaacttcac 360
taagggagaa gagatatctg tttatgttaa acttgcagga gaaaggggag atttgtgggc 420
aggaagtaaa ggaaaggagt agatgtcaac gaaagaatct gactttcttt gtcttcttgg 540
gttcataatc gaggaatttc agatgtcaac gaaagaatct gactttcttt gtcttcttgg 540
agtaagttac acatttgaca atgaagatag tgaattaaac ggtgattatg gtgaaaaat 600
atatccttat gaagaagata aagatgaaaa atctagtata tatgaaagtg attttcagat 660
agaacctgga ttttatgcaa cttatgaaag tactttgttt gaagaccaag ttccagcatt 720
agaggctcct gaagatatcg gaagtaccag tgaatcaaaa gactgggaag aagtagttgt 780
tgaaagtatg gaacaggatc gtattccaga agtgcattgc ccaccatctt cagctgtgtc 840
tggagtcaaa gaatggtttg gattgggagg agaacaagct gaagagaagg cttttgaatc 900
agttattgaa cctgtacaag aaagctcatt tcggagtaga aaaatagcag tggaagatga 960
gaatgacctc gaggaattaa ataatggtga gcctcaaaca gaacatcagc aagaatctga 1020
atcagaaatt gattcagtcg caaagacaca gtctgaacta gcattctgag cagagcacat 1080
tcccaaacct caatccactg gttggtttgg ttggaggattt acaagttatt taggttttgg 1140
agatgaggat acagggttgg aattaatagc tgaaggaaagc aatccaccac tacaagattt 1200
tcccaatccc atatcatctg ataaagaagc cacagttcca tgtacagaaa tattaacaga 1260

```

```

aaaaaaagac acaatcacta atgatagctt gagtctcaag ccaagttggt ttgatttttg 1320
ttttgctata ctaggctttg catatgccaa ggaagataaa attatgttag atgacaggaa 1380
aaatgaagaa gatggtgggg cagatgaaca tgaacatcct ctaacaagtg aattagaccc 1440
tgaaaaagaa caagaaatag aaacgataaa aattatagaa acagaagatc aaatagacaa 1500
gaaaccagtc tcagaaaaaa cagacgaatc tgatactata ccatatttga aaaagttctt 1560
gtataatfff gacaaccctt ggaacttcca gaacattcca aaggaaacag aattgccatt 1620
tcccaaacag atactggatc aaaataatgt aattgaaaaat gaagaaactg gagaattttc 1680
cattgataat tatcccacag ataatacaaa agttatgata ttcaaaagtt catacagtct 1740
gtcagatatg gtctctaaca tagagttacc taccgagaatt cacgaagaag tatattttga 1800
accctcatct tctaaagata gtgatgaaaa ttcgaaacca tcagtagaca ccgaagggcc 1860
tgctctggtg gagatagaca gatctgtgga aaataccctg ctaaatagtc agatgggttc 1920
aactgataac tctttgtctt ctcaaaatta tatttctcag aaagaagatg cttctgagtt 1980
tcagattctg aaatacttat tccaaattga tgtttatgat ttcatgaatt ctgcattttc 2040
accaattgta attcttacag aaagggttgt ggcagcactg cctgaaggta tgagaccaga 2100
ttctaactct tatggttttc catgggaatt ggtgatatgt gcagctgttg ttggattttt 2160
tgctgttctc ttttttttgt ggagaagttt tagatcggtt aggagtcggc tttatgtggg 2220
acgagagaaa aagcttgctc taatgctttc tggactaatt gaagaaaaaa gtaaaactac 2280
tgaaaaatft agccttgttc aaaaagagta tgaaggctat gaagtagagt catcttttaa 2340
ggatgccagc tttgagaagg aggcaacaga agcacaaagt ttggaggcaa cctgtgaaaa 2400
gctgaacagg tccaattctg aacttgagga tgaaatactc tgtctagaaa aagagttaaa 2460
agaagagaaa tccaaacatt ctgaacaaga tgaattgatg gcggatattt caaaaaggat 2520
acagtctcta gaagatgagt caaaatccct caaatcacia gtagctgaag ccaaaatgac 2580
cttcaagata tttcaaatga atgaagaacg actgaagata gcaataaaaag atgctttgaa 2640
tgaaaattct caacttcagg aaagccagaa acagcttttg caagaagctg aagtatggaa 2700
agaacaagtg agtgaactta ataaacagaa agtaacattt gaagactcca aagtacatgc 2760
agaacaagtt ctaaatgata aagaaagtca catcaagact ctgactgaac gcttggttaa 2820
gatgaaagat tgggctgcta tgcttgagaa agacataacg gatgatgata acttggaatt 2880
agaaatgaac agtgaatcgg aaaatggtgc ttacttagat aatcctccaa aaggagcttt 2940
gaagaaactg attcatgctg ctaagttaaa tgcttcttta aaaaccttag aaggagaaaag 3000
aaaccaaatt tatattcagt tgtctgaagt tgataaaaca aaggaagagc ttacagagca 3060
tattaaaaat cttcagactc aacaagcatc tttgcagtca gaaaacacac attttgaaaa 3120
tgagaatcag aagcttcaac agaaacttaa agtaatgact gaattatatt aagaaaatga 3180
aatgaaactc caccggaaat taacagtaga ggaaaattat cggttagaga aagaagagaa 3240
actttctaaa gtcgacgaaa agatcagcca tgccactgaa gagctggaga cctatagaaa 3300
gctgagcaaa gatcttgaag aagaattgga gagaactatt cattcttatc aagggcagat 3360
tatttcccat gagaaaaaag cacatgataa ttggttgcca gctcggaatg ctgaaagaaa 3420
cctcaatgat ttaaggaaaag aaaatgctca caacagacaa aaattaactg aaacagagct 3480
taaatttgaa ctttttagaaa aagatcctta tgcactcgat gttccaaata cagcatttgg 3540
cagaggctca cgaggcccag ggaatcctct ggaccatcag attaccaatg aaagaggaga 3600
atcaagctgt gatagggttaa ccgatcctca tagggctccc tctgacactg ggtctctgtc 3660
acctccatgg gaccaggacc gtaggatgat gtttccctccg ccaggacaat catatcctga 3720
ttcagccctt cctccacaaa ggcaagacag attttgttct aattctggta gactgtctgg 3780
accagcagaa ctcagaagtt ttaatatgcc ttctttggat aaaaatggat ggtcaatgcc 3840
ttcagaaatg gaatccagta gaaatgatac caaagatgat cttggttaatt taaatgtgcc 3900
tgattcatct ctccctgctg aaaatgaagc cactggccct ggctttgttc ctccacctct 3960
tgctccaatc agaggtccat tgtttccagt ggatgcaaga ggccattctt tgagaagagg 4020
acctcctttc ccccccactc ctccaggagc catgtttgga gcttctcgag attattttcc 4080
accaagggat ttcccaggtc caccacctgc tccatttgca atgagaaatg tctatccacc 4140
gaggggtttt cctccttacc ttcccccaag acctggattt ttccccccac cccacattc 4200
tgaaggtaga agtgagttcc cctcaggttt gattccacct tcaaatgagc ctgctactga 4260
acatccagaa ccacagcaag aaacctgaca at
4292

```

<210> 42

<211> 1369

<212> PRT

<213> Homo sapiens

<400> 42

Met Ala Lys Phe Gly Val His Arg Ile Leu Leu Ala Ile Ser Leu

1

5

10

15

Thr Lys Cys Leu Glu Ser Thr Lys Leu Leu Ala Asp Leu Lys Lys Cys
 20 25 30
 Gly Asp Leu Glu Cys Glu Ala Leu Ile Asn Arg Val Ser Ala Met Arg
 35 40 45
 Asp Tyr Arg Gly Pro Asp Cys Arg Tyr Leu Asn Phe Thr Lys Gly Glu
 50 55 60
 Glu Ile Ser Val Tyr Val Lys Leu Ala Gly Glu Arg Glu Asp Leu Trp
 65 70 75 80
 Ala Gly Ser Lys Gly Lys Glu Phe Gly Tyr Phe Pro Arg Asp Ala Val
 85 90 95
 Gln Ile Glu Glu Val Phe Ile Ser Glu Glu Ile Gln Met Ser Thr Lys
 100 105 110
 Glu Ser Asp Phe Leu Cys Leu Leu Gly Val Ser Tyr Thr Phe Asp Asn
 115 120 125
 Glu Asp Ser Glu Leu Asn Gly Asp Tyr Gly Glu Asn Ile Tyr Pro Tyr
 130 135 140
 Glu Glu Asp Lys Asp Glu Lys Ser Ser Ile Tyr Glu Ser Asp Phe Gln
 145 150 155 160
 Ile Glu Pro Gly Phe Tyr Ala Thr Tyr Glu Ser Thr Leu Phe Glu Asp
 165 170 175
 Gln Val Pro Ala Leu Glu Ala Pro Glu Asp Ile Gly Ser Thr Ser Glu
 180 185 190
 Ser Lys Asp Trp Glu Glu Val Val Val Glu Ser Met Glu Gln Asp Arg
 195 200 205
 Ile Pro Glu Val His Val Pro Pro Ser Ser Ala Val Ser Gly Val Lys
 210 215 220
 Glu Trp Phe Gly Leu Gly Gly Glu Gln Ala Glu Glu Lys Ala Phe Glu
 225 230 235 240
 Ser Val Ile Glu Pro Val Gln Glu Ser Ser Phe Arg Ser Arg Lys Ile
 245 250 255
 Ala Val Glu Asp Glu Asn Asp Leu Glu Glu Leu Asn Asn Gly Glu Pro
 260 265 270
 Gln Thr Glu His Gln Gln Glu Ser Glu Ser Glu Ile Asp Ser Val Pro
 275 280 285
 Lys Thr Gln Ser Glu Leu Ala Ser Glu Ser Glu His Ile Pro Lys Pro
 290 295 300
 Gln Ser Thr Gly Trp Phe Gly Gly Gly Phe Thr Ser Tyr Leu Gly Phe
 305 310 315 320
 Gly Asp Glu Asp Thr Gly Leu Glu Leu Ile Ala Glu Glu Ser Asn Pro
 325 330 335
 Pro Leu Gln Asp Phe Pro Asn Pro Ile Ser Ser Asp Lys Glu Ala Thr
 340 345 350

29.

Val Pro Cys Thr Glu Ile Leu Thr Glu Lys Lys Asp Thr Ile Thr Asn
 355 360 365
 Asp Ser Leu Ser Leu Lys Pro Ser Trp Phe Asp Phe Gly Phe Ala Ile
 370 375 380
 Leu Gly Phe Ala Tyr Ala Lys Glu Asp Lys Ile Met Leu Asp Asp Arg
 385 390 395 400
 Lys Asn Glu Glu Asp Gly Gly Ala Asp Glu His Glu His Pro Leu Thr
 405 410 415
 Ser Glu Leu Asp Pro Glu Lys Glu Gln Glu Ile Glu Thr Ile Lys Ile
 420 425 430
 Ile Glu Thr Glu Asp Gln Ile Asp Lys Lys Pro Val Ser Glu Lys Thr
 435 440 445
 Asp Glu Ser Asp Thr Ile Pro Tyr Leu Lys Lys Phe Leu Tyr Asn Phe
 450 455 460
 Asp Asn Pro Trp Asn Phe Gln Asn Ile Pro Lys Glu Thr Glu Leu Pro
 465 470 475 480
 Phe Pro Lys Gln Ile Leu Asp Gln Asn Asn Val Ile Glu Asn Glu Glu
 485 490 495
 Thr Gly Glu Phe Ser Ile Asp Asn Tyr Pro Thr Asp Asn Thr Lys Val
 500 505 510
 Met Ile Phe Lys Ser Ser Tyr Ser Leu Ser Asp Met Val Ser Asn Ile
 515 520 525
 Glu Leu Pro Thr Arg Ile His Glu Glu Val Tyr Phe Glu Pro Ser Ser
 530 535 540
 Ser Lys Asp Ser Asp Glu Asn Ser Lys Pro Ser Val Asp Thr Glu Gly
 545 550 555 560
 Pro Ala Leu Val Glu Ile Asp Arg Ser Val Glu Asn Thr Leu Leu Asn
 565 570 575
 Ser Gln Met Val Ser Thr Asp Asn Ser Leu Ser Ser Gln Asn Tyr Ile
 580 585 590
 Ser Gln Lys Glu Asp Ala Ser Glu Phe Gln Ile Leu Lys Tyr Leu Phe
 595 600 605
 Gln Ile Asp Val Tyr Asp Phe Met Asn Ser Ala Phe Ser Pro Ile Val
 610 615 620
 Ile Leu Thr Glu Arg Val Val Ala Ala Leu Pro Glu Gly Met Arg Pro
 625 630 635 640
 Asp Ser Asn Leu Tyr Gly Phe Pro Trp Glu Leu Val Ile Cys Ala Ala
 645 650 655
 Val Val Gly Phe Phe Ala Val Leu Phe Phe Leu Trp Arg Ser Phe Arg
 660 665 670

Ser Val Arg Ser Arg Leu Tyr Val Gly Arg Glu Lys Lys Leu Ala Leu
 675 680 685
 Met Leu Ser Gly Leu Ile Glu Glu Lys Ser Lys Leu Leu Glu Lys Phe
 690 695 700
 Ser Leu Val Gln Lys Glu Tyr Glu Gly Tyr Glu Val Glu Ser Ser Leu
 705 710 715 720
 Lys Asp Ala Ser Phe Glu Lys Glu Ala Thr Glu Ala Gln Ser Leu Glu
 725 730 735
 Ala Thr Cys Glu Lys Leu Asn Arg Ser Asn Ser Glu Leu Glu Asp Glu
 740 745 750
 Ile Leu Cys Leu Glu Lys Glu Leu Lys Glu Glu Lys Ser Lys His Ser
 755 760 765
 Glu Gln Asp Glu Leu Met Ala Asp Ile Ser Lys Arg Ile Gln Ser Leu
 770 775 780
 Glu Asp Glu Ser Lys Ser Leu Lys Ser Gln Val Ala Glu Ala Lys Met
 785 790 795 800
 Thr Phe Lys Ile Phe Gln Met Asn Glu Glu Arg Leu Lys Ile Ala Ile
 805 810 815
 Lys Asp Ala Leu Asn Glu Asn Ser Gln Leu Gln Glu Ser Gln Lys Gln
 820 825 830
 Leu Leu Gln Glu Ala Glu Val Trp Lys Glu Gln Val Ser Glu Leu Asn
 835 840 845
 Lys Gln Lys Val Thr Phe Glu Asp Ser Lys Val His Ala Glu Gln Val
 850 855 860
 Leu Asn Asp Lys Glu Ser His Ile Lys Thr Leu Thr Glu Arg Leu Leu
 865 870 875 880
 Lys Met Lys Asp Trp Ala Ala Met Leu Gly Glu Asp Ile Thr Asp Asp
 885 890 895
 Asp Asn Leu Glu Leu Glu Met Asn Ser Glu Ser Glu Asn Gly Ala Tyr
 900 905 910
 Leu Asp Asn Pro Pro Lys Gly Ala Leu Lys Lys Leu Ile His Ala Ala
 915 920 925
 Lys Leu Asn Ala Ser Leu Lys Thr Leu Glu Gly Glu Arg Asn Gln Ile
 930 935 940
 Tyr Ile Gln Leu Ser Glu Val Asp Lys Thr Lys Glu Glu Leu Thr Glu
 945 950 955 960
 His Ile Lys Asn Leu Gln Thr Gln Gln Ala Ser Leu Gln Ser Glu Asn
 965 970 975
 Thr His Phe Glu Asn Glu Asn Gln Lys Leu Gln Gln Lys Leu Lys Val
 980 985 990
 Met Thr Glu Leu Tyr Gln Glu Asn Glu Met Lys Leu His Arg Lys Leu
 995 1000 1005

Thr Val Glu Glu Asn Tyr Arg Leu Glu Lys Glu Glu Lys Leu Ser Lys
 1010 1015 1020
 Val Asp Glu Lys Ile Ser His Ala Thr Glu Glu Leu Glu Thr Tyr Arg
 1025 1030 1035 1040
 Lys Arg Ala Lys Asp Leu Glu Glu Glu Leu Glu Arg Thr Ile His Ser
 1045 1050 1055
 Tyr Gln Gly Gln Ile Ile Ser His Glu Lys Lys Ala His Asp Asn Trp
 1060 1065 1070
 Leu Ala Ala Arg Asn Ala Glu Arg Asn Leu Asn Asp Leu Arg Lys Glu
 1075 1080 1085
 Asn Ala His Asn Arg Gln Lys Leu Thr Glu Thr Glu Leu Lys Phe Glu
 1090 1095 1100
 Leu Leu Glu Lys Asp Pro Tyr Ala Leu Asp Val Pro Asn Thr Ala Phe
 1105 1110 1115 1120
 Gly Arg Gly Ser Arg Gly Pro Gly Asn Pro Leu Asp His Gln Ile Thr
 1125 1130 1135
 Asn Glu Arg Gly Glu Ser Ser Cys Asp Arg Leu Thr Asp Pro His Arg
 1140 1145 1150
 Ala Pro Ser Asp Thr Gly Ser Leu Ser Pro Pro Trp Asp Gln Asp Arg
 1155 1160 1165
 Arg Met Met Phe Pro Pro Pro Gly Gln Ser Tyr Pro Asp Ser Ala Leu
 1170 1175 1180
 Pro Pro Gln Arg Gln Asp Arg Phe Cys Ser Asn Ser Gly Arg Leu Ser
 1185 1190 1195 1200
 Gly Pro Ala Glu Leu Arg Ser Phe Asn Met Pro Ser Leu Asp Lys Met
 1205 1210 1215
 Asp Gly Ser Met Pro Ser Glu Met Glu Ser Ser Arg Asn Asp Thr Lys
 1220 1225 1230
 Asp Asp Leu Gly Asn Leu Asn Val Pro Asp Ser Ser Leu Pro Ala Glu
 1235 1240 1245
 Asn Glu Ala Thr Gly Pro Gly Phe Val Pro Pro Pro Leu Ala Pro Ile
 1250 1255 1260
 Arg Gly Pro Leu Phe Pro Val Asp Ala Arg Gly Pro Phe Leu Arg Arg
 1265 1270 1275 1280
 Gly Pro Pro Phe Pro Pro Pro Pro Pro Gly Ala Met Phe Gly Ala Ser
 1285 1290 1295
 Arg Asp Tyr Phe Pro Pro Arg Asp Phe Pro Gly Pro Pro Pro Ala Pro
 1300 1305 1310
 Phe Ala Met Arg Asn Val Tyr Pro Pro Arg Gly Phe Pro Pro Tyr Leu
 1315 1320 1325

32.

Pro Pro Arg Pro Gly Phe Phe Pro Pro Pro Pro His Ser Glu Gly Arg
1330 1335 1340

Ser Glu Phe Pro Ser Gly Leu Ile Pro Pro Ser Asn Glu Pro Ala Thr
1345 1350 1355 1360

Glu His Pro Glu Pro Gln Gln Glu Thr
1365

<210> 43
<211> 412
<212> DNA
<213> Homo sapiens

<400> 43
ttacttttatg ccagatccag tacatgccat tgttatcctc tgtttacagg tggggaagct 60
gaggcaggaa gccctttagt cacttgccga aggccacgct gttacccatg ggaccgggtt 120
tgggcgggcg aagagcactc atggggcccg attcacgccc cgggcccgtt ccctcctgct 180
ctctgggtgct cctcacgcca ttggccccac tgccctctcac tgcccgtgag tccctgtgcc 240
cgtgtcctcc ttcttgaacc cctcagccct cagttaaacc tcagaaagct ggctcggaga 300
agtccttgtg tggatatctg gaggcagagt ttgccgtgag ccgagattgt gccactgcac 360
gcactccagc ctgggcgaca gagcgagacc ccatctcaaa aaaaaaaaaa aa 412

<210> 44
<211> 49
<212> PRT
<213> Homo sapiens

<400> 44
Met Gly Pro Val Leu Gly Gly Arg Arg Ala Leu Met Gly Pro Asp Ser
1 5 10 15

Arg Pro Gly Pro Val Pro Ser Cys Ser Leu Val Leu Leu Thr Pro Leu
20 25 30

Ala Pro Leu Pro Leu Thr Ala Arg Glu Ser Leu Cys Pro Cys Pro Pro
35 40 45

Ser

<210> 45
<211> 1317
<212> DNA
<213> Homo sapiens

<400> 45
gtctgtgaga gtcaattcag gggaaagata caagattgat ttgtaaaacc cttgaaatgt 60
agatttcttg tagatgtatc cttcacgttg taaatatgtt ttgtagagtg aagccatggg 120
aagccatgtg taacagagct tagacatcca aaactaatca atgctgaggt ggctaaatac 180
ctagcctttt acatgtaaac ctgtctgcaa aattagcttt tttaaaaaaaa aaaaaaaaaa 240
aaaattgggg ggggttaattt atcattcaga aatcttgcat tttcaaaaat tcagtgaag 300
cgccaggcga tttgtgtcta aggatacgat tttgaaccat atgggcagtg taaaaaatat 360
gaaacaactg tttccacact tgcacctgat caagagcagt gcttctccat ttgttttgca 420
gagaaatggt tttcatttcc cgtgtgttcc catttccttc tgaaattctg attttatcca 480
tttttttaag gctcctcttt atctcctttc ttaaggcact gttgctatgg cacttttcta 540
taaccttttc attcctgtgt acagtagctt aaaattgcag tgattgagca taacctactt 600
gtttgtataa attattgaaa tccatttgca cctgttaaga atggacttaa aagtactgct 660
ggacaggcat gtgtgtctca agtacattga ttgctcaaat ataaggaaat ggcccaatga 720
acgtgggtgt gggaggggaa agaggaaaca gagctagtca gatgtgaatt gtatctgttg 780

```

taataaacat gttaaaacaa acaaaaattg ttatttttct tttccttcgg tcagtgcaca 840
ttagcatttg aactacctgg ggattccttta tcagaactgt tcttggtgaa tatttatact 900
taattgaaat aattccttaa gggagggtttt gtttaaaacg tattaacagg aaattgtgta 960
tgagatattt aatgaaataa gaaattcaac aagaatgatt aagtcacttc ccaagtgggt 1020
gtcatttggt aaaccttggt ttacctgtct tgctattatg acatttcatt tggaaggatg 1080
tttgtgttgt agctaactgt tcaagtctgg tgctgactgc tggtcttagc catcacaaaa 1140
cgctaaattt gtgtaattgg agcttcctgc tggtatctgg aaatagcagg aaagcgcagc 1200
tttgtatatt gtttcctaaa gtatatataa ataaaaaaag aaactattgc tactaaaaaa 1260
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1317

```

<210> 46
 <211> 48
 <212> PRT
 <213> Homo sapiens

<400> 46
 Met Phe Phe Ile Ser Arg Val Phe Pro Phe Pro Ser Glu Ile Leu Ile
 1 5 10 15
 Leu Ser Ile Phe Leu Arg Leu Leu Phe Ile Ser Phe Leu Lys Ala Leu
 20 25 30
 Leu Leu Trp His Phe Ser Ile Thr Phe Ser Phe Leu Cys Thr Val Ala
 35 40 45

<210> 47
 <211> 1442
 <212> DNA
 <213> Homo sapiens

<400> 47
 tgcgggttgtt ttccttctct ccgtgcaacg ctggcaagtc tcaaagtcgc cacagaaaca 60
 tgccctgat tcagtgcctc tgcttagctg taacatgtta atcagaacta cctggcatct 120
 tcctgaacaa gactttcaat agggggccagt atgcttcgct tcatccagaa gttttctcaa 180
 gcatcttcaa agatactgaa gtactcttcc ccagtgggac taagaaccag cagaacagat 240
 atactttctc tcaagatgtc tctccagcaa aacttttccc catgtccaag gccttggctt 300
 tctcatcat ttccagcgta tatgagcaag acacagtgt atcatacat cccctgcagc 360
 tttaaaagc agcagaagca agcacttcta gccagaccct caagcaccat cacttaccta 420
 actgacagcc caaagccagc attatgtgta actctggcag gactaatccc cttcggtgct 480
 ccaccactgg tcatgctgat gacaaaaact tatattccca tattagcttt tactcagatg 540
 gcttatggag ccagtttcct atctttcttg ggtgggatca gatgggggtt tgctctacca 600
 gaaggtagtc cagccaaacc agactacctt aatttagcta gcagtgcagc tcctcttttc 660
 ttttcatggt ttgccttcct tatttctgaa agacttagtg aagccatagt cacagtaata 720
 atgggtatgg gagtagcatt ccaccttgaa ctttttctct taccacatta tcccaactgg 780
 tttaaagccc tgaggatagt agtcacttta ttggccactt tttcatttat aatcacttta 840
 gtagttaaaa gtagttttcc agaaaaagga cataagagac ctggtcaagt ataaaaaata 900
 taaaagtctg ggaagtggag agcacctctg cccagctgct gcccgcctg ggaagtgagg 960
 agcgcctctg cctggccgcc tgaccatctg ggaagtgtga caagcgcctc tgccggccg 1020
 ctgtgcaacc ttccacgtgt gaagtgcag ccttggtgtg gatcttttct gtcttccca 1080
 agtttgcatt ttcgacatta aagttaactt tttagttaaa agttttaaaa atatataat 1140
 ataaatacac tgtagataac atttgatgc cagctacacc ttttctact tctgtttggc 1200
 ttttttccc cacaccaatg gtaatttata ttcacagatt gttcttcatt tctagaaatt 1260
 gttacttcac ggtaattact tgagcaaaag cttgaaaatc cctgacaagt acttttcatc 1320
 tcatagtata ttagttttca ctcatgcat ttatgaataa tatagttatc cacttaaaaa 1380
 tttcaatatt ttaaccatct tgaaaattaa agattaaaaa tccccttaaa aaaaaaaaaa 1440
 aa 1442

<210> 48
 <211> 247
 <212> PRT
 <213> Homo sapiens

<400> 48

Met Leu Arg Phe Ile Gln Lys Phe Ser Gln Ala Ser Ser Lys Ile Leu
 1 5 10 15
 Lys Tyr Ser Phe Pro Val Gly Leu Arg Thr Ser Arg Thr Asp Ile Leu
 20 25 30
 Ser Leu Lys Met Ser Leu Gln Gln Asn Phe Ser Pro Cys Pro Arg Pro
 35 40 45
 Trp Leu Ser Ser Ser Phe Pro Ala Tyr Met Ser Lys Thr Gln Cys Tyr
 50 55 60
 His Thr Ser Pro Cys Ser Phe Lys Lys Gln Gln Lys Gln Ala Leu Leu
 65 70 75 80
 Ala Arg Pro Ser Ser Thr Ile Thr Tyr Leu Thr Asp Ser Pro Lys Pro
 85 90 95
 Ala Leu Cys Val Thr Leu Ala Gly Leu Ile Pro Phe Val Ala Pro Pro
 100 105 110
 Leu Val Met Leu Met Thr Lys Thr Tyr Ile Pro Ile Leu Ala Phe Thr
 115 120 125
 Gln Met Ala Tyr Gly Ala Ser Phe Leu Ser Phe Leu Gly Gly Ile Arg
 130 135 140
 Trp Gly Phe Ala Leu Pro Glu Gly Ser Pro Ala Lys Pro Asp Tyr Leu
 145 150 155 160
 Asn Leu Ala Ser Ser Ala Ala Pro Leu Phe Phe Ser Trp Phe Ala Phe
 165 170 175
 Leu Ile Ser Glu Arg Leu Ser Glu Ala Ile Val Thr Val Ile Met Gly
 180 185 190
 Met Gly Val Ala Phe His Leu Glu Leu Phe Leu Leu Pro His Tyr Pro
 195 200 205
 Asn Trp Phe Lys Ala Leu Arg Ile Val Val Thr Leu Leu Ala Thr Phe
 210 215 220
 Ser Phe Ile Ile Thr Leu Val Val Lys Ser Ser Phe Pro Glu Lys Gly
 225 230 235 240
 His Lys Arg Pro Gly Gln Val
 245

<210> 49

<211> 2696

<212> DNA

<213> Homo sapiens

<400> 49

taggcctctt tggccgtgga gctgtccctc ctaggtggga atgttcactc ttttgtgtgc 60
 aggttgatg ggggggcagg gacagtgtg ctgggaagga tgccagctct gggattgggc 120
 cagtcctgtg ggcaagactt gcaagaggct ggatcaactt ggtgtggtat ctctgatggc 180
 ttagagtaat ggcaatgagg gtctctgttg tgatgtcact gactactttc tgggggtgctt 240
 ctgggcaccc cttatgatgt cacaggaagc agttcctcag aggttacttc ctgtgaacat 300

35,

```

aagggagcag gtacttctctg tgatgtctca atgagttctt ccttgaaggt cacttttggtg 360
atatcatggg aaggtgtact tccggtgatg cctagaggtc acgtcctgtg atgtcattag 420
gctgaagcat gtacttctctg tattggacag tgaccagtct ctgacctgcc ttctccctcc 480
acacccttct ttggtgggtg ttggcctggg ggtcttctca ggaagagaat aaggcacggg 540
acttgatcc aatctggagg actctaacgg aaaaaaacca atattgtcag ggtcatctcc 600
attcaaacac gtcaagtcctg cgaactcgcc ctggaggagg ggggtgggaga tggacctagt 660
gcaaactact gttaaagacc tcccttccca cccctgcctt ttgtgtgcat gcctgtgtct 720
gcgtggcttt gtttcattga atcgggtgag ccaagtgtgt ggtggctctg tcaggccagt 780
atggccagggt gtagagttca gtgagccata gtagggtccc ttgggcccaga atgcttcgtg 840
tggtctgata ggtagattg gtttgggtggc ttccaccaag ctggcatact tcggtgatgt 900
ctgatggatc agaattgtttt ggtgtgtctca ccaggggtct tggagaacta gaatgttctg 960
atggagtctg acaagccagg cggccttgag agttggttta ggagtggctc cctgagtgtc 1020
gtggctgtgg tcagctctaa ggacctgttg gcagactgag atttcagggc ctgacaacca 1080
tgtagactag gatagctgag acctccctct acccccaccc atctccctct ctctccttga 1140
gaccacctcc actttctcca acccaaagca gggcgcccag tgccctggtt ccatcatcag 1200
catctctggg ggagggggcg cccatgccc cctctcccc cattgtccg cctcctaggt 1260
cttccaaacc cttttcttct ctatgacttt gggggaaatc cagcctcctt gtctctctcc 1320
taaaaaagga gggaagaaaa gccacagaga caattcctgc ccctaaagcc taggagatcc 1380
ctctcccttg ctagagagcc acccccaaat caaatgtga aaatccctag aaagcaatag 1440
ccttcgaggt acctgtcact gaatttccca cccagccct tccaccgat gggaggctgt 1500
aacttgggca ctggggtgac tttttccatg cccttgatct cccaggggtg ggaggcaggc 1560
cccacttccc ctccctatc cccacttcc cattgttgtt gccccacccc taatctccag 1620
actgaaccca gatggagatc tgagtgccaa aacaattctt gatgtaactt tgtacatatc 1680
tctactacc gttggggggt cttgggggtta gaggtggggg cggctctgtg ggccattgtc 1740
cccctccacc tctcaaaaga ccttacagta ttccacagta tctctaccg cacgcagta 1800
ttacagtatc tagctggaat atccccctac agccccccag gaccctatga ggaagggaag 1860
gagccagggg gagtgaagta aggtctggga ctggggagggt gggatctgat gaactcattt 1920
gcatatcatt cgcactctcc gcttggcagc cgctttctac aaactcattc actggagtct 1980
gggtcccaat cagccgggtc caggactcct ctcacacaga cacatctccg gaggctgggc 2040
ctcctgaaaa gtgtttgtct ggggtgtctg tgtaacaacc cctccctatt catatttctt 2100
ggggaccccc taccagcca gccagggtga tctgaaaggt atactttgtc agctcagtga 2160
gctagttcac tcaccatgtt ggtgagcaga gagccacacc tttccccatt ttaccttggg 2220
aaactcactc caccatcttt gccatctctt gaaagtccct tctgcaatct gacctcaatc 2280
ttttgtgtct cagtttgtcc agaggggaca cagatgtggg gtcagggatg aggattattg 2340
aaaaacccat catctctttt tttttcccc gtctccctat tagccaatcc gatctcagag 2400
tctctgagtg gctccttgc accttctctt cagcaccag taggtgttta ataagtgttt 2460
gctgcattga attatctccc tattccttct cattgccct ctagcttccc ataccttctc 2520
caagtgtctt cctcccttcc tttgtctggc tccctatgac tttctatttt ttttctctcc 2580
gtgtggttcc cattgttttc tgtcctgtct ctatcttagt ctttgtctgt ctctcctctt 2640
tcctcaaatg tctcaactct ctctcccaaa tttccccatt taaaaaaaaa aaaaaa 2696

```

<210> 50

<211> 73

<212> PRT

<213> Homo sapiens

<400> 50

```

Met Asn Ser Phe Ala Tyr His Ser His Pro Pro Leu Gly Ser Arg Phe
  1              5              10              15

```

```

Leu Gln Thr His Ser Leu Glu Ser Gly Ser Gln Ser Ala Gly Ser Arg
      20              25              30

```

```

Thr Pro Leu Thr Gln Thr His Leu Arg Arg Leu Gly Leu Leu Lys Ser
    35              40              45

```

```

Val Cys Leu Gly Cys Leu Cys Asn Asn Pro Ser Leu Phe Ile Phe Leu
    50              55              60

```

```

Gly Asp Pro Leu Pro Ser Gln Pro Gly
    65              70

```

<210> 51
<211> 2791
<212> DNA
<213> Homo sapiens

<400> 51
tttttttaga gtggtaacat ttattaggaa ggagagactt cagtttagact cccatgtctc 60
acacagaaga aacagatggg aactgccatt tctttctttc tttctttctt tttttttttg 120
agatggagtt tcgctcttat tgcccaggct ggagtgaat ggtgcaattt cggctcacct 180
caacctccgc ctcccgggtt caagagattc tcctgcctca gcctcctaag tagctgggat 240
tacaggcata cgccaccatg cctggctaatt tctgtatttt tagtagacac ggggtttctc 300
catgttggtc aggtctggtc tgaactcccg acctcagggt atccgcccac ctccggttcc 360
caaagtgtcg ggattacaag cgtgagccac tgcgcccagc cagtaactgc catttctaaa 420
gaggaaagag agcaggcaga gggctcctgac tcccagggga caggtagttc agctggacaa 480
tgagggagta tgagattagg gtggataagg aactgtctca ccacctcca ctgaagttca 540
gtggctaaaa tactgtctca ccagccaatc agtggaaagg tatcttgctc tccagggggac 600
acttgggatg tgggtgggtg caggaagaaa gaatgtcatg ctatctcttg ctgctcctcc 660
gggtttcttt gccgttacta acagggttgc tggaaaggcc aggcgggctt gcagggtgtg 720
gggttgggctg gcttcgagtg attcgggtgc tgggtgggtg ggagggagta tgaggggat 780
gtgggccacc accgggacct ggtggggcac tcagtcatt cccattcttg ttctcagagg 840
ctggagaggc agcagagggt ccagtggtag gctgggaagc tgaagggttg ctgctgtctc 900
gcaccgcctt gttgggtgac tgcctgggtc tgtactctgg gtttggctca ctgaagttag 960
gaacctcaga ataaaccata cagaattctc caatctcttg cagatcaccc ccacggccag 1020
tatatagtgt cagacaacct ttgaaaactg aagcgtaccc tttggtgagc cggataatgt 1080
ccccaggctg gatcagattg ccaacatcgt ccagacaga gatattgatg ctgctgttt 1140
tgtccgccac tttgcaggct cgaacctcat gcccgctcct tgtcttggtc actcggcctg 1200
tctccagcac aatgaagata aggttcagat tcttgagccc aggttgata tccttcacaa 1260
aggtctccgt cgtcatgctg cctgagcctc ggcaccccac tggatgggga atagaggatg 1320
aaggctcaat gcttggatcc tttgccccca tgcctcactt cccaaggcct acctacccca 1380
ttaggatggg gtcaggcagc ctcaaccctt ctaacccttc taaaagatta aaaaagaaca 1440
tccccggagg cctccaactt caggatcaga atttgggggt ctctggacag gctgctttgg 1500
ggctggaagg cccctgcccg ggatgctctt ttagtctcaa gccgcgaagt ggcggagccg 1560
acgtagacag gggtagggaa cccggtgcac agccaggag tagaatctta ctggccagat 1620
cttcgggaac cctcatcccg acaagccggg actcgggtcca tccctcccc taccggcagc 1680
ccaccacca cccaagccag ccggcaggac tgtgccgtgg ctggaagtta ctgtgaggcg 1740
gcggctaaga aggcggttct ggtggcggcg gtggaggctg aggcggcgcc cgaggcgggc 1800
acggaggaaga cagaagatgg cagatttttt gaaaggactg cctgtctaca acaaaagcaa 1860
ttttagtcca tttcacgcgg actccgtgtg caaagcctcg aaccgacggc cctcagtota 1920
cctgcctacc cgcgagtacc cgtctgaaca gatcatcgtg acagaaaaga caaacatcct 1980
cctgcgtac ctgcacagc aatgggacaa aaagaacgct gccaaagaaga gagaccagga 2040
gcaagtggag ctggaaggcg agagctccgc acctccccgc aagggtggcg ggaccgacag 2100
cccagacatg cacgaggaca cttaagactc tcaactccac aggcgcctcc tgccagggtc 2160
gctcctcggg cgcacacccg cctgcccgc atgtgtaagc accccgcccg ccgcctccc 2220

tgccggccca tccacacct gcgtccacac cacttccaac ctcataggag ccgatgtatt 2280
tattttctt gagtttttat ttatgctgta acctgtatca agcgttggtt aaaggggaca 2340
tcagaccag tagtgtgatg ttggtagatg ctttttaaaa aaaacaacat tgtcccccg 2400
acccccgct tccatcgggc cagttccccg attcctgccc ccagttctcc agagaaccag 2460
agtgtgtctg tgagagtctc tagcgggggc tttactgtgg ccgggcgaca ggggcgggac 2520
cggggtggcc tgacctacca ggacagccga gtggccttct ccccccaac accgatccag 2580
gccattgaga ctccgtcttg tcccacgttc gcccggaact ttcccatgcc cagacctcac 2640
tcagcgtgca cgcacgttgg ggagaagtgc gcccttggga tctttctctt gactcatttt 2700
atttttatca tggactagt cgtgctccgt gtccacccca ataaaagggt ctttctctaa 2760
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa a
2791

<210> 52
<211> 219
<212> PRT
<213> Homo sapiens

<400> 52

Met Ser Pro Gly Trp Ile Arg Leu Pro Thr Ser Ser Gln Thr Glu Ile
 1 5 10 15
 Leu Met Leu Pro Val Leu Ser Ala Thr Leu Gln Val Arg Thr Ser Cys
 20 25 30
 Pro Ser Phe Val Leu Val Thr Arg Pro Val Ser Ser Thr Met Lys Ile
 35 40 45
 Arg Phe Arg Phe Leu Ser Pro Gly Leu Ile Ser Phe Thr Lys Val Ser
 50 55 60
 Val Val Met Leu Pro Glu Pro Arg His Pro Thr Gly Trp Gly Ile Glu
 65 70 75 80
 Asp Glu Gly Ser Met Leu Gly Ser Phe Ala Pro Met Leu His Phe Pro
 85 90 95
 Arg Pro Thr Tyr Pro Ile Arg Met Gly Ser Gly Ser Leu Asn Pro Ser
 100 105 110
 Asn Pro Ser Lys Arg Leu Lys Lys Asn Ile Pro Gly Gly Leu Gln Leu
 115 120 125
 Gln Asp Gln Asn Leu Gly Val Ser Gly Gln Ala Ala Leu Gly Leu Glu
 130 135 140
 Gly Pro Leu Pro Gly Cys Ser Phe Ser Leu Lys Pro Arg Ser Gly Gly
 145 150 155 160
 Ala Asp Val Asp Arg Gly Arg Glu Pro Gly Ala Gln Pro Gly Ser Arg
 165 170 175
 Ile Leu Leu Ala Arg Ser Ser Gly Thr Leu Ile Pro Thr Ser Arg Asp
 180 185 190
 Ser Val His Pro Leu Pro Tyr Arg Gln Pro Thr Thr His Pro Ser Gln
 195 200 205
 Pro Ala Gly Leu Cys Arg Gly Trp Lys Leu Leu
 210 215

<210> 53

<211> 1527

<212> DNA

<213> Homo sapiens

<400> 53

tgaacaacaa gctaaaatgg aatagcacag aatggctgag gagccactgt gaagaaaggc 60
 atgcagccat gaaactgcag tgtcccttgc tgtagtgagg gtggctctga ccaatctgga 120
 agatacagaa aatgccaaaga gagcctacgc agaagcagtc cacctggata agtgtaaccc 180
 ttagtaaac ctgaactatg ctgtgctgct gtacaaccag ggcgagaaga agaacgccct 240
 ggcccaatat caggagatgg agaagaaagt cagcctactc aaggacaata gctctctgga 300
 atttgactct gagatgggtg agatgggtca gaagttggga gctgctctcc aggttgggga 360
 ggcactggtc tggaccaaac cagttaaaga tcccaaatca aagcaccaga ccacttcaac 420
 cagcaaacct gccagtttcc agcagcctct gggctcctaa caagctctag gacaggcaat 480
 gtcttcagca gctgcataca ggacgctccc ctcagggtgct ggaggaacat cccagttcac 540
 aaagccccca tctcttcttc tggagccaga gcctgcggtg gaatcaagtc caactgaaac 600
 atcagaacaa ataagagaga aataagaata gaatgaatga ccccaaaata gggttttctt 660
 gggcgaggat gtgctggatt aggaaagggtg acatgacaca ggcagagcag agtggcacc 720

```

accacagaat acagtgtgtg ttattacgag gagccagcag ttgagcctaa ggtccttcta 780
cctacctggt attggcattt gaggtcgga accctctact gcccataag ccaggaaaag 840
tgaaaagaga acacagttcc tttaagaact ggcagcaagg cttgaggcct tatgtatgta 900
gctgagtcag caaggtacat gatgctgtct gctttcaaaa ggacttttct ctcctagctg 960
actgactcct tccttagttc aaggaacagc tgagacagac ctctgctgag tagctctgtg 1020
atgacaaagc cttgggtttaa ctgaggtgat cctcagggtg tgaggtttat tagtccccaa 1080
ggcaaacaca aatattagat taataatcca actttaatag tatacattta aaagaaaaaa 1140
aacaaaagcc ctggaagttg aggccaagcc tgctgagtat tgcagctgca tttgccccaa 1200
gggaatccag aacaagtccc tccmtgtatt ttgttcttga gaggggtcag tctagaagct 1260
agatcctatc aggatgagga gcagcagccc agggcttgtc tggatmagca ccaacgattt 1320
taaagaaaaa aggaagagtt tcttagatga gtaattgtta ttgaagatag tcagtataa 1380
ccactgacca gatgctatca atacastatg tgtccttttt agaataaaga ttacatatca 1440
tcatttcctt tggggaaaaat tgttattcag gtataaaaaa aagagatcat aataaaaaac 1500
taaaagaacc taaaaaaaaa aaaaaaa 1527

```

<210> 54

<211> 122

<212> PRT

<213> Homo sapiens

<400> 54

```

Met Glu Lys Lys Val Ser Leu Leu Lys Asp Asn Ser Ser Leu Glu Phe
  1                      5                      10                      15

```

```

Asp Ser Glu Met Val Glu Met Ala Gln Lys Leu Gly Ala Ala Leu Gln
      20                      25                      30

```

```

Val Gly Glu Ala Leu Val Trp Thr Lys Pro Val Lys Asp Pro Lys Ser
    35                      40                      45

```

```

Lys His Gln Thr Thr Ser Thr Ser Lys Pro Ala Ser Phe Gln Gln Pro
    50                      55                      60

```

```

Leu Gly Ser Asn Gln Ala Leu Gly Gln Ala Met Ser Ser Ala Ala Ala
    65                      70                      75                      80

```

```

Tyr Arg Thr Leu Pro Ser Gly Ala Gly Gly Thr Ser Gln Phe Thr Lys
    85                      90                      95

```

```

Pro Pro Ser Leu Pro Leu Glu Pro Glu Pro Ala Val Glu Ser Ser Pro
   100                      105                      110

```

```

Thr Glu Thr Ser Glu Gln Ile Arg Glu Lys
   115                      120

```

<210> 55

<211> 2352

<212> DNA

<213> Homo sapiens

<400> 55

```

agcagagtga gctgaagctc ctgaggaggg ttcccgaagg ggggcgctca gagatggggg 60
cagggggcgg ggagaggaga gtctgcctta tgtcccttcc ttgtggactt cacatgggtca 120
tgcaagaaat gaggatgggt gtccagcggg ggccgaggcc actagtatcc tcctgcttcc 180
ccctgccatt ctccagggct ggactgaccc tatggactgg gagagagtgc ctgaggccac 240
catgccacag tcaaaggggg tcctatctca gaaggtggca gcatccactg agatatactc 300
acccgaaggg aaggaggctg ctgggtagca aataagcccc ttcttttctt ggtgagttga 360
tgacctcaa tagctccag tgcatgggt acccagtagc cattagctgg tgttgggttg 420
attgagacct ggggcagttc ctggggcaag aagccagatg ggagatgaga tagaaagtgt 480
taggagttat cctctttgcc tggcctttga gaataactta ctgtgtgact ttgggcaagt 540
tccttcccca ctctgggcct cagtttctca cttgggaaag caaggagttt gaccagatga 600

```

```

tcacaatggg ccttcctagc tctggccacc aagaatttgt gaacattaga gctcctgggc 660
tggtgggtag agccagagct gctgactggt ctctctgcct ccagagggga tttattggac 720
ctcagaggtg gcagggccct atggagcacc aactgccctc aacccacccc tgtgcccaag 780
actgggaagg gattgatgtc aggctgtggc cataggtagc atgagttgcc caaggaggga 840
cagagcatat ctttgctgag gcttggctga ggggcttatg atagggttg cagtacctca 900
cagccccctg tgggcacaga caccctgagg ttaccocagg caaatatatt gattagcagg 960
acaagggtc tctcctcagt ttctgctccc ttccatctct ctcccatact tgtctgaaaa 1020
gggagacaaa aaatcttata caagtggcat ctcaatcctt tccagtccag cacctcctgg 1080
ggcaggcagt gtgacttatt tcctgtggtg aaatcacctg tttcacaagc ctggcagcgc 1140
gacttctgag tctcatgacc actcaaccca agggaccctt cccagacca gaaccaagtc 1200
agctggggggc tgtcgtacta cctgtccag tcttgagggc ctagttgcag gtccccagg 1260
catccagccc ctccctagagc ttgctgggca ggctgcacct catctgggca ggcgcagagc 1320
tgatgaaatg ctggagcaat gcatggcaaa catatgccct ccagtgtctt ctgaaacctt 1380
tggggctgac acaagatcct ttagtggttg ggatgacctc tttcctgcag acttcttccc 1440
ctatcccctaa ctcatgcatg gaaaacgttt gtcaggcttg tttcccgagc ctctgcacc 1500
tcaacatcac gctcaccctt ttgggttttag cccagtgtta tttagcaaat ttctccagct 1560
gcaggggaagg atcagagcac tatctttttt tttttttttt ctctggagc caggactgca 1620
caaggcaatg gccaaattta gttgaattca gcctaccatc ctttgcctgat gactcagctc 1680
tatccaagt actggagcca cagagatggg tcagtcccag cccctgtcct caggaagccc 1740
atggctcaggg aaacgttgta gggataagta atagagggca gttgccttca gggctcctgg 1800
tggctgctgg tccctatggt gccttgatgt gaattagaag acggtgccct ttccagggtg 1860
attcagacct acactagaac gcacagcttt gggagtgcac cacagggttg attttagcac 1920
cccttgcccc ttggccagag gtgcctgtct gcacggccat acgctgcagc ctcgagggac 1980
acacaggcca aagtgtttcc ttcagcctct tctggagag gaagccgcag gtcagtgttc 2040
caagcttctg gtctcaaaact cttggcctca agggatcctc ctacctcggc ctccgaaagt 2100
gctgggatta cagggtgtgag ccaccatgcc tggcctcact gtgtagttgt gaatagctta 2160
atagtttgca atgtggtgct tctcacagct cttctctgta atgggaacat gaaaaattac 2220
ctggtacagt tttatgcttt gtggtgtggc ttttaatttt tataaacatg tcttactgct 2280
attgccaggg atttagattt ttaataaaact tccagataca acagtaaaaa aaaaaaaaaa 2340
aaaaaaaaaa aa 2352

```

<210> 56

<211> 169

<212> PRT

<213> Homo sapiens

<400> 56

```

Met Lys Cys Trp Ser Asn Ala Trp Gln Thr Tyr Ala Leu Gln Cys Leu
  1             5             10             15

```

```

Leu Lys Pro Leu Gly Leu Thr Gln Asp Pro Leu Val Phe Gly Met Thr
  20             25             30

```

```

Ser Phe Leu Gln Thr Ser Ser Pro Ile Pro Asn Ser Cys Met Glu Asn
  35             40             45

```

```

Val Cys Gln Ala Gly Phe Pro Ser Leu Leu His Leu Asn Ile Thr Leu
  50             55             60

```

```

Thr Leu Leu Gly Leu Ala Gln Cys Tyr Leu Ala Asn Phe Ser Ser Cys
  65             70             75             80

```

```

Arg Glu Gly Ser Glu His Tyr Leu Phe Phe Phe Phe Phe Ser Trp Ser
  85             90             95

```

```

Gln Asp Cys Thr Arg Gln Trp Pro Asn Leu Val Glu Phe Ser Leu Pro
  100            105            110

```

```

Ser Phe Ala Asp Asp Ser Ala Leu Cys Gln Val Leu Glu Pro Gln Arg
  115            120            125

```

Trp Val Ser Pro Ser Pro Cys Pro Gln Glu Ala His Gly Gln Gly Asn
 130 135 140

Val Val Gly Ile Ser Asn Arg Gly Gln Leu Pro Ser Gly Leu Leu Val
 145 150 155 160

Ala Ala Gly Pro Tyr Gly Ala Leu Met
 165

<210> 57
 <211> 995
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (852)

<400> 57
 ctaaaccctt cctccagcct ctacctcctg caaaccatcg tccatattgc aagcaatcag 60
 atttatttat ttattttttg aggcaggaga atggcgtgaa cccgggaggc aaagcttgca 120
 gtgagccaag atcgaccac tgcaactccag cctgggtgac agagcgagac tctgtctcaa 180
 aaaaaaaaaa aaaaaagaaa agaaaaaaaaac ctattgccta cctccaagg gcaaatgcag 240
 cctgggtgtt ggctccaagt ctgcttcagc tttgggtccc atcactccgc tttccttttg 300
 cctcaactta agatcttgcc acatgtacac ttcccataac attccagctg agaggctttt 360
 gtatacgagg ggtttttttt tgtttgttt gccwagaatg atcctccctg gtgaatctta 420
 gcttaaatac ccaggcagtt aagcaggctt ttctctatga tttcaccctt actttgtata 480
 tttctgtgat tagtctgaa catcccatgt tgtactgttt acctctctca ctggacttag 540
 aaattctgaa gaacagaaac aaaaagtttt ctctttctct gtatgttctt ttttggtgtg 600
 tattattatt gacttggtat atcttctttc agatgtattt tcttttattc tcaacacaaa 660
 gtaattttta catgatcttt ctggggccaaa attttcttat ctgtaaaatg aagatgttgg 720
 actaggattc agggcttctt aactaaagaa ttcaatagat gatgctggga caagtgtata 780
 tctacctgta aaggaatgaa gttggacccc ttcctcatac tatacacaaa aattaactca 840
 aaatggatca tngacctaaa cataagagct aaaactataa gactttcaga agaaaacaca 900
 ggagtaagtc ttcatagacct tggattaagg aatggttgct tagatatgac acccaaaaaa 960
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 995

<210> 58
 <211> 72
 <212> PRT
 <213> Homo sapiens

<400> 58
 Met Leu Tyr Cys Leu Pro Leu Ser Leu Asp Leu Glu Ile Leu Lys Asn
 1 5 10 15
 Arg Asn Lys Lys Phe Ser Leu Ser Leu Tyr Val Leu Phe Leu Leu Leu
 20 25 30
 Leu Leu Leu Thr Trp Tyr Ile Phe Phe Gln Met Tyr Phe Leu Leu Phe
 35 40 45
 Ser Thr Gln Ser Asn Phe Asn Met Ile Phe Leu Gly Gln Asn Phe Leu
 50 55 60
 Ile Cys Lys Met Lys Met Leu Asp
 65 70

<210> 59
 <211> 1038

<212> DNA

<213> Homo sapiens

<400> 59

```

gacggcctca ccatgatgaa acgggcagct gctgctgcag tgggaggagg taagttaccc 60
ggatcgectg tctccaggcc ctcacctagc ctgggtccccg ggctgctggg agaacgcaga 120
gatgaggcgc tgggctggct ctcaccctcc acttccgaag ctgcccagat agcctgagtg 180
agccacagca tcaaaatact ccagggaata gctcactccc attcctgacc cagcttctct 240
tctagtcctt atgtcgaata agcataggag gaagatcggt tgaaagarga tttgcagcta 300
aactccacgt ggcttatttc acatttatgc gtggacacac acacacacac acacacacac 360
acacaaattt gagaccaatg aagggtattg acttcctcag catcacacag caagttagag 420
acaaaccagg gccatggctg gtccttctat gacatctttg cttcacctgg ctccacactc 480
caccttttct tcaccagaag accactaagt tgccatctct gtattgctca agctgacagt 540
ctccggaaac tgtcaaggaa ttcttaagcg gggggcgggg ggaagggtcc cttctcctga 600
gccacctct gcactcagct tctctctccc acagccctgg cagtgggggc tgtgcccgtg 660
gtgctcagtg ccatgggctt cactggggca ggaatcgccg cgtcctccat agcagccaag 720
atgatgtccg cagcagccat tgccaacggg ggtggtgttt ctgccccgag cctggtggct 780
actctgcagt ccgtgggggc agctggactc tccacatcat ccaacatcct cctggcctct 840
gttgggtcag tgtkgggggc ctgctkgggg aattcactt cttcttctct cccagctgaa 900
cccagggcta aagaagatga ggcaagagaa aatgtacccc aagggtgaacc tccaaaaccc 960
ccactcaagt cagagaaaca tgaggaataa aggtcacatg cagatgcata aaaaaaaaaa 1020
aaaaaaaaaa aaaaaaaaaa                                     1038

```

<210> 60

<211> 105

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (61)

<220>

<221> UNSURE

<222> (65)

<400> 60

```

Met Gly Phe Thr Gly Ala Gly Ile Ala Ala Ser Ser Ile Ala Ala Lys
  1             5             10             15
Met Met Ser Ala Ala Ala Ile Ala Asn Gly Gly Gly Val Ser Ala Gly
  20             25             30
Ser Leu Val Ala Thr Leu Gln Ser Val Gly Ala Ala Gly Leu Ser Thr
  35             40             45
Ser Ser Asn Ile Leu Leu Ala Ser Val Gly Ser Val Xaa Gly Ala Cys
  50             55             60
Xaa Gly Asn Ser Pro Ser Ser Ser Leu Pro Ala Glu Pro Glu Ala Lys
  65             70             75             80
Glu Asp Glu Ala Arg Glu Asn Val Pro Gln Gly Glu Pro Pro Lys Pro
  85             90             95
Pro Leu Lys Ser Glu Lys His Glu Glu
  100             105

```

<210> 61

<211> 1060

<212> DNA

<213> Homo sapiens

<400> 61

```

gaggagacca ggacagctgc tgagacctct aagaagtcca gataactaaga gcaaagatgt 60
ttcaaactgg gggcctcatt gtcttctacg ggctgttagc ccagaccatg gcccagtttg 120
gaggcctgcc cgtgccccctg gaccagacct tgcccttgaa tgtgaatcca gccctgccct 180
tgagtcccac aggtcttgca ggaagcttga caaatgccct cagcaatggc ctgctgtctg 240
ggggcctggt gggcattctg gaaaaccttc cgctcctgga catcctgaag cctggaggag 300
gtacttctgg tggcctcctt gggggactgc ttggaaaagt gacgtcagt attcctggcc 360
tgaacaacat cattgacata aaggctactg acccccagct gctggaactt ggccttgtgc 420
agagccctga tggccaccgt ctctatgtca ccatccctct cggcataaag ctccaagtga 480
atacgccctt ggtcggtgca agtctgttga ggctggctgt gaagctggac atcactgcag 540
aaatcttagc tgtgagagat aagcaggaga ggatccacct ggtccttggg gactgcaccc 600
attcccctgg aagcctgcaa atttctctgc ttgatggact tggccccctc cccattcaag 660
gtcttcttga cagcctcaca gggatcttga ataaagtcct gcctgagttg gttcagggca 720
acgtgtgccc tctgggtcaat gaggttctca gaggttggga catcaccctg gtgcatgaca 780
ttgttaacat gctgatccac ggactacagt ttgtcatcaa ggtctaagcc ttccaggaag 840
gggctggcct ctgctgagct gaactatttc ttgctgctca atccatttcc tctggcccag 900
cttcccagtg ctcacagatg gctggcccat gtgctggaag atgacacagt tgccttctct 960
ccgaggaacc tgccccctct cctttccac caggcgtgtg taacatccca tgtgcctcac 1020
ctaataaaat ggctcttctt ctgcaaaaaa aaaaaaaaaa 1060

```

<210> 62

<211> 256

<212> PRT

<213> Homo sapiens

<400> 62

```

Met Phe Gln Thr Gly Gly Leu Ile Val Phe Tyr Gly Leu Leu Ala Gln
 1             5             10             15

Thr Met Ala Gln Phe Gly Gly Leu Pro Val Pro Leu Asp Gln Thr Leu
      20             25             30

Pro Leu Asn Val Asn Pro Ala Leu Pro Leu Ser Pro Thr Gly Leu Ala
      35             40             45

Gly Ser Leu Thr Asn Ala Leu Ser Asn Gly Leu Leu Ser Gly Gly Leu
      50             55             60

Leu Gly Ile Leu Glu Asn Leu Pro Leu Leu Asp Ile Leu Lys Pro Gly
      65             70             75             80

Gly Gly Thr Ser Gly Gly Leu Leu Gly Gly Leu Leu Gly Lys Val Thr
      85             90             95

Ser Val Ile Pro Gly Leu Asn Asn Ile Ile Asp Ile Lys Val Thr Asp
      100             105             110

Pro Gln Leu Leu Glu Leu Gly Leu Val Gln Ser Pro Asp Gly His Arg
      115             120             125

Leu Tyr Val Thr Ile Pro Leu Gly Ile Lys Leu Gln Val Asn Thr Pro
      130             135             140

Leu Val Gly Ala Ser Leu Leu Arg Leu Ala Val Lys Leu Asp Ile Thr
      145             150             155             160

Ala Glu Ile Leu Ala Val Arg Asp Lys Gln Glu Arg Ile His Leu Val
      165             170             175

```

Leu Gly Asp Cys Thr His Ser Pro Gly Ser Leu Gln Ile Ser Leu Leu
180 185 190

Asp Gly Leu Gly Pro Leu Pro Ile Gln Gly Leu Leu Asp Ser Leu Thr
195 200 205

Gly Ile Leu Asn Lys Val Leu Pro Glu Leu Val Gln Gly Asn Val Cys
210 215 220

Pro Leu Val Asn Glu Val Leu Arg Gly Leu Asp Ile Thr Leu Val His
225 230 235 240

Asp Ile Val Asn Met Leu Ile His Gly Leu Gln Phe Val Ile Lys Val
245 250 255

<210> 63

<211> 992

<212> DNA

<213> Homo sapiens

<400> 63

```
gcagaatggg gctctgggtct ctgggcattc atttccctca tagaggctga gaataaaaca 60
aggacttatt cacacatggt ctagaacccc agaatggccc aagttacctg agaccagggt 120
ttctcaacct tgacaccatt gacatttttg actgggtaat tctttgttct gcagagctgt 180
cctttgcact gtaggagatt tactaatatc cctggcctct acccagtagt accactagca 240
cctattcccc acccagcgtg tctccagata ttgtcaaata tcccatcggg tgcaaaatga 300
tccctgggtca agatctgttg cccaagatgt tacaggtcac aatgaccaca tttgaaattg 360
tttccctttt cattttaccc tgtgaaagca tctctcctag agccttgcaa gaggcagggtg 420
acattgtgtc catattttctt cctgtttcag aacttctgtt tcacaacaat ttctctctcg 480
ctacaagtat tctttcactc agcactgggg aagttgggaa cagctgggtca ccatcatccc 540
tttaatcaac tcacacctgt ttaaagagtgt tttctgattt gaccttcac ccttagttta 600
ctgggggttaa aaaaagtctc agcaattttc attatttctc gtgggtctca ttatcaaacc 660
ttactttatt tcggcatatt tctctggggc ttcttctagt ttctgcctta caagcaatgc 720
tgttctgtaa atttattgaa aactctggaa catttcacct ttagagatgg aggatggaag 780
gattgggtacc agaagagggc taagatacgt tttctgtctt gagctgaaag cacagtctac 840
tctccttcgt tttgtcgatg agaaagttga ggccagaggg gaggtgacat gtttagagtc 900
accagctgg ttagtgacag aaaaagcgtg agagttgtct aggattcctg ccactttcaa 960
taaagacctg acttggaaaa aaaaaaaaaa aa 992
```

<210> 64

<211> 82

<212> PRT

<213> Homo sapiens

<400> 64

Met Ile Pro Gly Gln Asp Leu Leu Pro Lys Met Leu Gln Val Thr Met
1 5 10 15

Thr Thr Phe Glu Ile Val Phe Pro Phe Ile Leu Pro Cys Glu Ser Ile
20 25 30

Ser Pro Arg Ala Leu Gln Glu Ala Gly Asp Ile Val Ser Ile Phe Leu
35 40 45

Pro Val Ser Glu Leu Leu Phe His Asn Asn Phe Ser Leu Ala Thr Ser
50 55 60

Ile Leu Ser Leu Ser Thr Gly Glu Val Gly Asn Ser Trp Ser Pro Ser
65 70 75 80

Ser Leu

44

<210> 65
 <211> 1095
 <212> DNA
 <213> Homo sapiens

<400> 65
 gtcttaatga gcaacagcaa cagcagtctc cagttaagaa agagagaatt aaatacagca 60
 gagatttcct gttgaagctc tcaagtgttt ccatctgcag aaaaaaacca gactttctgc 120
 ctgatcatcc cattgtactg caaaaaccag aaaacaacca aagttttaag tagcatttta 180
 agaacagatg aatttaagtt tggacatctg caaatgaggt ggatctagca acaataactg 240
 taatggactg tgacaattca atttattctt aattttgatg gttggctatt tgacttctct 300
 aaaaatgaga aagagctatt ttaaaatata aagaattttc taatcagttt cagctttgca 360
 ggaggtttcc tgcataaatt gggaagtaac actggaaagt aggaatttgg ttagtgaagt 420
 gggaagactg tatatttata atttgcatac tacttgcaat tttttgtttt tcatcacttg 480
 taataatgga atggaaatgt aagctgtaaa gactctcaaa tataaaatat ttgctacagt 540
 gtatatatgg tacataattg cttgttgctt ttaaagttcc ttctgttggt ctgcttccca 600
 ctgatttcat accagctcat gaatggatca ttacagtctc tccagaggct tagaatgatt 660
 cagaatgttc aatgcatagt tctcaataaa caggaggcag aatttttaat gggattttct 720
 tttcagatat atgattggct tctaggtttt tgataataat atgggtcttaa attcataatt 780
 actagcagag attgataatt tggaaacaat ggtagtgaat gaaactgaag ttgaaaaacg 840
 gctgctactt atgtcactaa tcagaccata tgaatagcag aagttgagca atttcaaagt 900
 aaaactgata tttttatttc caaaggaatt tagacatttg aaaataattg acatacatta 960
 agttttaatt cgataatttc ttatatatgg atgaacaatt tttgggttta agcttttaatt 1020
 tcctagaaat tttatacatt aaatctcctg caatttgtca ctctggatgt tactgtttta 1080
 aaaaaaaaaa aaaaaa 1095

<210> 66
 <211> 68
 <212> PRT
 <213> Homo sapiens

<400> 66
 Met Val His Asn Cys Leu Leu Leu Leu Lys Phe Leu Leu Leu Phe Cys
 1 5 10 15
 Phe Pro Leu Ile Ser Tyr Gln Leu Met Asn Gly Ser Leu Gln Ser Leu
 20 25 30
 Gln Arg Leu Arg Met Ile Gln Asn Val Gln Cys Ile Val Leu Asn Lys
 35 40 45
 Gln Glu Ala Glu Phe Leu Met Gly Ile Ser Phe Gln Ile Tyr Asp Trp
 50 55 60
 Ser Leu Gly Phe
 65

<210> 67
 <211> 831
 <212> DNA
 <213> Homo sapiens

<400> 67
 ggctctgtgg gcccagccct acccctgaag cacagttaac tggttctggg gtaggaactg 60
 ggggcccggag ggacaggggt ctgggttctgg ctcaaccttg gctgctgggt agatccaggg 120
 cctgggaaag aggggctgag gcctgaactg ggcctaagga gagtgcagct cagttcgcac 180
 acaacagcac ccagccctgt ccccttgctg cctctacca gccctgggca gttccctcaa 240
 cagagctctg cagccccaag tggcagctgc tggctcaaag ctgggactac atgaaagtct 300
 gaaaagagaa tgagaaggag gtggcgcaag agcctggacg cacgtgtggg aggccgtttt 360
 gtgcagcgct attgtgctcc ccgggcgggc atgtkctcgc gctccgtggc tctgttggtg 420


```

cccarcgtgc ggggggtgtgc tkgtggccct gtgggcctgt agggcaaccc atgccaactg 480
cggaaaagta accagcacca tacaccccc ccaacacaaa actgggcatt tatttttttt 540
gttgatcatt ttattaggaa gcaaaaaaat gtacagttac aagaatcatt ttccaaacag 600
aggttaaata tgagctgaaa agtgtaaaaa aggaagagga acatcacttt acaaatcatt 660
aaattaaaca aataaacaaa cagaacccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 780
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a          831

```

<210> 68
 <211> 50
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (29)

<220>
 <221> UNSURE
 <222> (39)

<220>
 <221> UNSURE
 <222> (45)

<400> 68
 Met Arg Arg Arg Trp Arg Lys Ser Leu Asp Ala Arg Val Gly Gly Arg
 1 5 10 15
 Phe Val Gln Arg Tyr Cys Ala Pro Arg Ala Gly Met Xaa Ser Arg Ser
 20 25 30
 Val Ala Leu Leu Val Pro Xaa Val Arg Gly Cys Ala Xaa Gly Pro Val
 35 40 45

Gly Leu
 50

<210> 69
 <211> 1893
 <212> DNA
 <213> Homo sapiens

<400> 69
 ggcaraccgt gtgagggggc ctgtggcccc agcgtgctgt ggcctcgggg agtgggaagt 60
 ggaggcagga gccttcctta cacttcgcca tgagtttcct catcgactcc agcatcatga 120
 ttacctccca ratactattt tttggatttg ggtggctttt cttcatgcgc caattgttta 180
 aagactatga ratacgtcag tatgttgtac aggtgatctt ctccgtgacg tttgcatttt 240
 cttgcaccat gtttgagctc atcatctttg aaatcttagg agtattgaat agcagctccc 300
 gttattttca ctggaaaatg aacctgtgtg taattctgct gatcctgggt ttcattggtgc 360
 ctttttacat tggctatttt attgtgagca atatccgact actgcataaa caacgactgc 420
 ttttttcctg tctcttatgg ctgaccttta tgtatttctt ctggaaacta ggagatccct 480
 ttcccattct cagcccaaaa catgggatct tatccataga acagctcatc agccggggttg 540
 gtgtgattgg agtgactctc atggctcttc tttctggatt tgggtgctgc aactgccccat 600
 acacttacat gtcttacttc ctcaggaatg tgactgacac ggatattcta gccctggaac 660
 ggcgactgct gcaaaccatg gatatgatca taagcaaaaa gaaaaggatg gcaatggcac 720
 ggagaacaat gttccagaag ggggaagtgc ataacaaacc atcaggtttc tggggaatga 780
 taaaaagtgt taccacttca gcatcaggaa gtgaaaatct tactcttatt caacaggaag 840
 tggatgcttt ggaagaatta agcaggcagc tttttctgga aacagctgat ctatatgcta 900
 ccaaggagag aatagaatac tccaaacctt tcaaggggaa atatttaatt tcttggttac 960
 tttttctcta tctactgtgt ttggaaaatt ttcattgaata ccatcaatat tgtatttgat 1020

```

cgagttggga aaacgggatcc tgtcacaaga ggcattgaga tcactgtgaa ttatctggga 1080
atccaatttg atgtgaagtt ttggtcccaa cacatttcct tcattcttgt tggaataatc 1140
atcgtcacat ccatcagagg attgctgac actcttacca agttctttta tgccatctct 1200
agcagtaagt cctccaatgt cattgtcctg ctattagcac agataatggg catgtacttt 1260
gtctcctctg tgctgctgat ccgaatgagt atgcctttag aataccgcac cataatcact 1320
gaagtccttg gagaactgca gttcaacttc tatcaccgtt ggtttgatgt gatcttcctg 1380
gtcagcgctc tctctagcat actcttcctc tatttggctc acaaacaggc accagagaag 1440
caaatggcac cttgaactta agcctactac agactgttag aggccagtgg tttcaaaatt 1500
tagatataag aggggggaaa aatggaacca gggcctgaca ttttataaac aaacaaaatg 1560
ctatggtagc atttttcacc ttcatagcat actccttccc cgtcaggtga tactatgacc 1620
atgagtagca tcagccagaa catgagaggg agaactaact caagacaata ctcagcagag 1680
agcatcccgt gtggatatga ggctgggtga gaggcggaga ggagccaaga aactaaaggt 1740
gaaaaataca ctggaactct ggggcaagac atgtctatgg tagctgagcc aaacacgtag 1800
gatttcggtt ttaaggttca catggaaaag gttatagctt tgccttgaga ttgactcatt 1860
aaaatcagag actgtaacaa aaaaaaaaaa aaa 1893

```

<210> 70

<211> 309

<212> PRT

<213> Homo sapiens

<400> 70

```

Met Ser Phe Leu Ile Asp Ser Ser Ile Met Ile Thr Ser Gln Ile Leu
  1             5             10             15

```

```

Phe Phe Gly Phe Gly Trp Leu Phe Phe Met Arg Gln Leu Phe Lys Asp
  20             25             30

```

```

Tyr Glu Ile Arg Gln Tyr Val Val Gln Val Ile Phe Ser Val Thr Phe
  35             40             45

```

```

Ala Phe Ser Cys Thr Met Phe Glu Leu Ile Ile Phe Glu Ile Leu Gly
  50             55             60

```

```

Val Leu Asn Ser Ser Ser Arg Tyr Phe His Trp Lys Met Asn Leu Cys
  65             70             75             80

```

```

Val Ile Leu Leu Ile Leu Val Phe Met Val Pro Phe Tyr Ile Gly Tyr
  85             90             95

```

```

Phe Ile Val Ser Asn Ile Arg Leu Leu His Lys Gln Arg Leu Leu Phe
  100            105            110

```

```

Ser Cys Leu Leu Trp Leu Thr Phe Met Tyr Phe Phe Trp Lys Leu Gly
  115            120            125

```

```

Asp Pro Phe Pro Ile Leu Ser Pro Lys His Gly Ile Leu Ser Ile Glu
  130            135            140

```

```

Gln Leu Ile Ser Arg Val Gly Val Ile Gly Val Thr Leu Met Ala Leu
  145            150            155            160

```

```

Leu Ser Gly Phe Gly Ala Val Asn Cys Pro Tyr Thr Tyr Met Ser Tyr
  165            170            175

```

```

Phe Leu Arg Asn Val Thr Asp Thr Asp Ile Leu Ala Leu Glu Arg Arg
  180            185            190

```

```

Leu Leu Gln Thr Met Asp Met Ile Ile Ser Lys Lys Lys Arg Met Ala
  195            200            205

```

47

Met Ala Arg Arg Thr Met Phe Gln Lys Gly Glu Val His Asn Lys Pro
 210 215 220

Ser Gly Phe Trp Gly Met Ile Lys Ser Val Thr Thr Ser Ala Ser Gly
 225 230 235 240

Ser Glu Asn Leu Thr Leu Ile Gln Gln Glu Val Asp Ala Leu Glu Glu
 245 250 255

Leu Ser Arg Gln Leu Phe Leu Glu Thr Ala Asp Leu Tyr Ala Thr Lys
 260 265 270

Glu Arg Ile Glu Tyr Ser Lys Thr Phe Lys Gly Lys Tyr Leu Ile Ser
 275 280 285

Trp Leu Leu Phe Leu Tyr Leu Leu Cys Leu Glu Asn Phe His Glu Tyr
 290 295 300

His Gln Tyr Cys Ile
 305

<210> 71
 <211> 1424
 <212> DNA
 <213> Homo sapiens

<400> 71
 cttggctgac ggattgcctt agaagacttc atgttattga ataacgtgaa tactgtgatg 60
 atggccaatt ccaggtgctc atgaagatcg tgaaaataac agctatttcc agtgtttaca 120
 tctacttaatt attctcgtgc tcagagctaa cgaggctggc gttaggcggg gacgtgggcc 180
 tgtttgaagg atgctggaag tcgcgggacct aggttgcatt gtgtgtgtct gggctgcctc 240
 ccaaacccag gtatgtggcc cagatctggc taatggacag tttcacccaa gctctgtcct 300
 gtttccagct gacagctgct acctgcaggt gctgctcgag tctgtctctg gttcaccata 360
 agccaagggt ggggtcttct cccaagggc tcttccattc cctgagacct cctgtctgtg 420
 gggctcctgg agcatgctat gggaggagtc ctccagacat ttccctcacc ctcacccctc 480
 atacccttga ctacccaaac cctctagccc tctggctttg ttgttctgca aaatccaaca 540
 tttcttttct ctacccccgc ccaacctgct taagttcaga tgtccccact cctcacctcc 600
 atcataaggt aagaacctga atttgttttc ccacttcctt ttgggcctca ctcttctcca 660
 agttccccag tcacctccag aatgacttct gaacatgcaa ccctcaggag tctctccgcc 720
 ctccccactt tccccaaacc tgcagtcagc accccagggc tctggaggct gtacaggat 780
 gagatgcaaa gggcctgttg tttaggtgtg agtgtggtat gggggtgttg aggcagcccc 840
 gtctggcatg gctgtgaggg ggcagtgga gacaggctgt ctgtgctccc atgatggtct 900
 gggggccccc tggtcagccc acatggccct gtgggggctc ctgctgctac aggggtgctg 960
 gctgggcgga ggaagagctg gccattcagg atgggcgcag tggctcatgc ctgtaatccc 1020
 agcacttttg gagggccagg caggtggatt gcttgagccc aggagttaa gaccagcctg 1080
 ggcaacatag taaaaccccg tctttactga aaacacaaaa tttagccagg tgtgggtggcg 1140
 cagcctgyt actctggagg ctgaggcatg agaatcgctt gaaccaggag gtggagggtt 1200
 cagtgaacca aaacctgcc actgcactcc agcctgggca acagagtga acgcgggtct 1260
 aaaaaaagaa gaaagaaaga aagaaagaaa gaaagaaaga aataaagaaa gagagagaga 1320
 gagagagaga gagagagaga aagaaagaaa gaaagawaga aagaaagaaa gaaagaaaga 1380
 aagaaagaaa gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 1424

<210> 72
 <211> 70
 <212> PRT
 <213> Homo sapiens

<400> 72
 Met Thr Ser Glu His Ala Thr Leu Arg Ser Leu Ser Ala Leu Pro Thr
 1 5 10 15

48.

Phe Pro Asn Pro Ala Val Ser Thr Pro Gly Leu Trp Arg Leu Tyr Arg
 20 25 30

Tyr Glu Met Gln Arg Ala Cys Gly Leu Gly Val Ser Val Val Trp Gly
 35 40 45

Cys Gly Gly Ser Pro Val Trp His Gly Cys Glu Gly Ala Val Glu Asp
 50 55 60

Arg Leu Ser Val Leu Pro
 65 70

<210> 73

<211> 1726

<212> DNA

<213> Homo sapiens

<400> 73

```

agctgggggag aaggaagaaa actgggccgg gaacccctcc cctcagtgtc cccagttct 60
ccatctccat aaggagccat caggctgtca ttaaggaaca gagtgtcact cagggggcac 120
tgtcaciaaag cagcaccat ggcacatggg ccgggggtgc agaagcctgg cttatttcag 180
gctgacagct ggaccctctg ggtgcagggg ctccaggcagt ggccaagagc ccaaagggct 240
aaggcccgctg acgaccaccc agcccgtcac ccaggtaca aacactgacc ccaaagcaag 300
agcagggact gtccctcagc cctcagggcc ttcagtgcagg gtgcagaatc tcatgtccac 360
atggaggtca cccctcaggt cacaccact ccagagcaa ccctgggcar ggagggggcac 420
cctgggggttg tgttgaccac ctccccttca ggtgaggccc ttttctgcct tctttctagc 480
ccctgcatg gggcacctgc tattgtctggg gctctggggg ggaccctgtg tgatttctgt 540
cagggagctt gtgtgtgca tggccagagg tgtttacatc cagaagggcc cagcacggcc 600
ctgtgggggtg tggggggaat atggtagatc attgtgatgt gcctcggggc cctcttgctt 660
tggagccagc tttgtttcag aatctgtcac ttgggccctc ttcagggttt tgaggctgga 720
gaagtgaagt gggacagtca ctgtcatcac caccaccct gtcaccacc tggaaaacat 780
tcttgatata ctggccatgc tgggccgggc tcacatccac tgagggtata tgaccaagc 840
atctaaacca gtgtttctca aacttcgggtg agtatcagaa tcacctggaa gggcttttac 900
agattgtctg cccaccccc cagaatttct catcaggagt gggcaagacc aatcatttgc 960
atttctaaca agttcctagg agctgcagct gctggccctg gaaccacact ttgagaacca 1020
ctgctttaga ccaaacacca aaggaagatg cagccaccct cctttacatg tcacaacgct 1080
caggtccat gactacatca ggctgtccag ctgagctcca cctgcagcag ccgagattcc 1140
cgactcgctc caccattggg ggctaggagt gaagcgtgtc accatgggtc gctcatggcc 1200
agccaggaaa gcctctctg gtgtgcgtctg tgcagttctt gttcttccct ggaggactct 1260
tggatcgctt gtgatcttgg ccaggagacc aggtgcctgg gtcccttctt ggaaggggac 1320
aagttacaca cccagcccc attttccac caacttctac atgccttggg agaacctgct 1380
acatgttggc tgcccccttc ccctatttca gcagtgccca gtccctgctta taaacctgag 1440
gctgtctccc cataccctgc cctgtgcaag tgccagccgt tattccaggc agcccaatgt 1500
tggtgaggcc agatggatc ctggaagcag ctggcccatg gatgtgagtc atcacagtat 1560
tctagaaaca gagaagaggt cttaacctaa tgcgcataga gaaattgttc tcattgtaaa 1620
cataccccctg tccttagctg atctaggtgg aagcccagct tcatgtgcta gggggcatga 1680
taatgataat aaaggaattg tatctaggaa aaaaaaaaa aaaaaa 1726

```

<210> 74

<211> 133

<212> PRT

<213> Homo sapiens

<400> 74

Met Val Ser Ser Trp Pro Ala Arg Lys Ala Ser Leu Leu Cys Val Cys
 1 5 10 15

Ala Val Leu Val Leu Pro Trp Arg Thr Leu Gly Ser Pro Val Ile Leu
 20 25 30

49,

Ala Arg Arg Pro Gly Ala Trp Val Pro Ser Trp Lys Gly Thr Ser Tyr
 35 40 45

Thr Pro Gln Pro His Phe Pro Thr Asn Phe Tyr Met Pro Trp Glu Asn
 50 55 60

Leu Leu His Val Gly Cys Pro Leu Pro Leu Phe Gln Gln Cys Pro Val
 65 70 75 80

Leu Leu Ile Asn Leu Arg Pro Ala Pro His Thr Leu Pro Cys Ala Ser
 85 90 95

Ala Ser Arg Tyr Ser Arg Gln Pro Asn Val Val Glu Ala Arg Trp Ile
 100 105 110

Pro Gly Ser Ser Trp Pro Met Asp Val Ser His His Ser Ile Leu Glu
 115 120 125

Thr Glu Lys Arg Ser
 130

<210> 75
 <211> 927
 <212> DNA
 <213> Homo sapiens

<400> 75
 cagacggcgg agcctggagg agcccacgca gtctgttccct ggcacccggg gcgtgtgaag 60
 ggacttgagg gcagcgagat ggaatcagca agagaaaaca tcgaccttca acctggaagc 120
 tccgacccca ggagccagcc catcaacctg aaccattacg ccaccaagaa gagcgtggcg 180
 gagagcatgc tggacgtggc cctgttcatg tccaacgcca tgcggctgaa ggcggtgctg 240
 gagcagggac catcctctca ctactacacc accctgggtca ccctcatcag cctctctctg 300
 ctctctcagg tggatcatcg tgctctgctc gtggtcattg cacggctgaa cctgaatgag 360
 gtagaaaagc agtggcgact caaccagctc aacaacgcag ccaccatctt ggtcttcttc 420
 actgtggtca tcaatgtttt cattacagcc ttccggggcac ataaaacagg gttcctggct 480
 gccagggcct caaggaatcc tctctgaatg cagcctggga cccagggttct ggggcctgga 540
 acttctgcct ccttcctccg tgatctgcc aagcctgggtg gcactttcca cagcccagga 600
 gagcttctga aaggacagta tagctgccct tgctccctac ccacagcacc tgagttaaaa 660
 agtgattttt akgttattgg tctaaggagc ttccatcttg gtctgaagtc ctgagctcag 720
 acgcaggtac tggcagccat accttctctg tagcatctgc tggacctaag taaggcatgt 780
 ctgtctaaag ccaagtctgc cgggcttaag gatgctgggt ctgactctac cccactgctt 840
 ccttctgctc caggcctcaa ttttcccttc ttgtaaaatg gaatctatat ctataaagg 900
 ttcttcaaat ccaaaaaaaaa aaaaaaa 927

<210> 76
 <211> 142
 <212> PRT
 <213> Homo sapiens

<400> 76
 Met Glu Ser Ala Arg Glu Asn Ile Asp Leu Gln Pro Gly Ser Ser Asp
 1 5 10 15

Pro Arg Ser Gln Pro Ile Asn Leu Asn His Tyr Ala Thr Lys Lys Ser
 20 25 30

Val Ala Glu Ser Met Leu Asp Val Ala Leu Phe Met Ser Asn Ala Met
 35 40 45

Arg Leu Lys Ala Val Leu Glu Gln Gly Pro Ser Ser His Tyr Tyr Thr
 50 55 60

50.

Thr Leu Val Thr Leu Ile Ser Leu Ser Leu Leu Leu Gln Val Val Ile
65 70 75 80

Gly Val Leu Leu Val Val Ile Ala Arg Leu Asn Leu Asn Glu Val Glu
85 90 95

Lys Gln Trp Arg Leu Asn Gln Leu Asn Asn Ala Ala Thr Ile Leu Val
100 105 110

Phe Phe Thr Val Val Ile Asn Val Phe Ile Thr Ala Phe Gly Ala His
115 120 125

Lys Thr Gly Phe Leu Ala Ala Arg Ala Ser Arg Asn Pro Leu
130 135 140

<210> 77

<211> 1660

<212> DNA

<213> Homo sapiens

<400> 77

```

gcaagtccca cgcacagtcc tgaaaaaaat tttaatcttc ttttcttaga actatcttgg 60
ttggcatcat caggccctga gagcacagtg catgtcagca tctaagattc cacttttcaa 120
aatgaaggac ctgatactga tcctatgcct cctggaaatg agttttgcag tgccgttctt 180
tctcagcaa tctggaacac cgggtatggc tagtttgagc cttgagacaa tgagacagtt 240
gggaagtctg cagagattaa acacactttc tcagtattct agatacggct ttggaaaatc 300
atttaattct ttgtggatgc acggtctcct cccaccacat tcctctcttc catggatgag 360
gccaaagaaa catgaaactc aacagtatga atattctttg cctgtgcatc cccacctct 420
cccatcacag ccattccttga agcctcaaca gccaggactg aaaccttttc tccagtctgc 480
tgctgcaacc accaaccagg ccacagcact gaaagaagca cttcagcctc caattcacct 540
gggacatctg cccttgaggg aaggagaact gcctctgggt cagcagcagg tggcaccatc 600
agataagcca ccaaagcctg agctcccagg agtagatttt gctgatccac aagggtccatc 660
actcccagga atggattttc ctgatccaca aggtccatca ctcccaggat tggattttgc 720
tgatccacaa ggttcaacaa ttttccagat agcccgtttg atttctcacg gaccaatgcc 780
acaaaataaa caatctccac tttatccagg aatgttgtac gtgccttttg gagcaaatca 840
attgaatgcc cctgccagac ttggcatcat gagttcagaa gaagtggcag gcgggagaga 900
agacccaatg gcctatggag ccatgtttcc aggttttggg ggcattgagg ccggcctttga 960
gggaatgccc cacaaccagg ctatgggagg tgacttcact ctggaatttg actccccagt 1020
ggctgccacc aaaggccctg agaacgaaga aggaggtgca caaggctccc ctatgccgga 1080
ggccaaccca gacaatctag aaaaccaggc tttccttaca gagctagaac ctgctcccca 1140
cgcagggtct cttgctctcc ctaaggatga cattcccggc ctgccaagga gcccttcagg 1200
gaagatgaag ggactcccca gygtcacccc agcagctgct gacctactga tgacctctga 1260
attagctgat gtttatagga cctacgatgc tgacatgacc acatccgtgg atttccagga 1320
agaagcaacc atggatacca cgatggcccc aaactctctg caaacatcca tgccaggaaa 1380
caaagcccag gagcccgaga tgatgcatga cgcattggcat ttccaagagc cctgacagct 1440
ctaagatatt agctactttc tgtatgcaca agcttcccag ctttgtcccc acagtgtacc 1500
tttttgctaa aacacttatt acccttctgc agcaaaggca ttaaaagcgc taagcatata 1560
ttaataaatg caagtggcta gaaatagtgt aggtcccctt cttgctttca atatcttggt 1620
gaaataaaat gtgtcaattg tcaaaaaaaa aaaaaaaaaa 1660

```

<210> 78

<211> 447

<212> PRT

<213> Homo sapiens

<400> 78

Met Ser Ala Ser Lys Ile Pro Leu Phe Lys Met Lys Asp Leu Ile Leu
1 5 10 15

Ile Leu Cys Leu Leu Glu Met Ser Phe Ala Val Pro Phe Phe Pro Gln
20 25 30

Gln Ser Gly Thr Pro Gly Met Ala Ser Leu Ser Leu Glu Thr Met Arg
35 40 45

Gln Leu Gly Ser Leu Gln Arg Leu Asn Thr Leu Ser Gln Tyr Ser Arg
50 55 60

Tyr Gly Phe Gly Lys Ser Phe Asn Ser Leu Trp Met His Gly Leu Leu
65 70 75 80

Pro Pro His Ser Ser Leu Pro Trp Met Arg Pro Arg Glu His Glu Thr
85 90 95

Gln Gln Tyr Glu Tyr Ser Leu Pro Val His Pro Pro Pro Leu Pro Ser
100 105 110

Gln Pro Ser Leu Lys Pro Gln Gln Pro Gly Leu Lys Pro Phe Leu Gln
115 120 125

Ser Ala Ala Ala Thr Thr Asn Gln Ala Thr Ala Leu Lys Glu Ala Leu
130 135 140

Gln Pro Pro Ile His Leu Gly His Leu Pro Leu Gln Glu Gly Glu Leu
145 150 155 160

Pro Leu Val Gln Gln Gln Val Ala Pro Ser Asp Lys Pro Pro Lys Pro
165 170 175

Glu Leu Pro Gly Val Asp Phe Ala Asp Pro Gln Gly Pro Ser Leu Pro
180 185 190

Gly Met Asp Phe Pro Asp Pro Gln Gly Pro Ser Leu Pro Gly Leu Asp
195 200 205

Phe Ala Asp Pro Gln Gly Ser Thr Ile Phe Gln Ile Ala Arg Leu Ile
210 215 220

Ser His Gly Pro Met Pro Gln Asn Lys Gln Ser Pro Leu Tyr Pro Gly
225 230 235 240

Met Leu Tyr Val Pro Phe Gly Ala Asn Gln Leu Asn Ala Pro Ala Arg
245 250 255

Leu Gly Ile Met Ser Ser Glu Glu Val Ala Gly Gly Arg Glu Asp Pro
260 265 270

Met Ala Tyr Gly Ala Met Phe Pro Gly Phe Gly Gly Met Arg Pro Gly
275 280 285

Phe Glu Gly Met Pro His Asn Pro Ala Met Gly Gly Asp Phe Thr Leu
290 295 300

Glu Phe Asp Ser Pro Val Ala Ala Thr Lys Gly Pro Glu Asn Glu Glu
305 310 315 320

Gly Gly Ala Gln Gly Ser Pro Met Pro Glu Ala Asn Pro Asp Asn Leu
325 330 335

Glu Asn Pro Ala Phe Leu Thr Glu Leu Glu Pro Ala Pro His Ala Gly
340 345 350

Leu Leu Ala Leu Pro Lys Asp Asp Ile Pro Gly Leu Pro Arg Ser Pro
 355 360 365

Ser Gly Lys Met Lys Gly Leu Pro Ser Val Thr Pro Ala Ala Ala Asp
 370 375 380

Pro Leu Met Thr Pro Glu Leu Ala Asp Val Tyr Arg Thr Tyr Asp Ala
 385 390 395 400

Asp Met Thr Thr Ser Val Asp Phe Gln Glu Glu Ala Thr Met Asp Thr
 405 410 415

Thr Met Ala Pro Asn Ser Leu Gln Thr Ser Met Pro Gly Asn Lys Ala
 420 425 430

Gln Glu Pro Glu Met Met His Asp Ala Trp His Phe Gln Glu Pro
 435 440 445

<210> 79

<211> 2036

<212> DNA

<213> Homo sapiens

<400> 79

```

gacaaatacc aagaatTTTT gcgtatgttt atattgtatt gttctaaata atgggtagcc 60
tgtgaaataa gatcttgcca cccatgtaat aatagtagta atactatagt taaaatggct 120
gtaagaatag ttttataaaa gtgaatacac agatctattg tatttgaaac ataactttga 180
caattattag tgtgaccaa gtattaggcg gttttcatac atttttcacc ttgtacaaaa 240
ttatgaattc atttttcctc caggccgaca aggagttgta gaatgaaaat gccctctaag 300
tggtattttg gttgttctaa cttacaaaag tgattttgaa taagaaatat ttggtgttct 360
ttttataacc agtttttgat tggtaatgtt tttctgtatt gtttaaaacg gatcaaaaat 420
gtwagtctat tggtagagat taagtattta ttgctacmtc atagttgawa aattgatgtt 480
atcgtaaagc catatgttct gtycaagtct tgtttgccct gaaatgawta ttcctacaag 540
tgaaacacta gactatttgg gagtgatat ggcttggtt ttgggatttt tttttttttt 600
ttttggcttt tgtttttgtt tgtttttttg tttcgtttgg tagttcatct gccttttaac 660
ccattcacca aaatttacct tgtaacaag catcaccaat gaacatttca gagcaatctg 720
cataatttaac agacctaaaa taaatcctat taggcaagtc agttgaaaat gctcgtgctg 780
ctaattggaat tagagtgcgt tcattttaca ggctagtatt ttaaaaatag aaatcaaaa 840
ctggcaccga agatgctaa ttgtttactg taccttgta ggttttcact cataaattta 900
aaccagtgtt tttttttaga actggtttgt gtatatatat agtgattatg gatactaatt 960
caatgtaatt tataattttc tatgtcaata caaaaataca tcacagcctt ctcaaacagc 1020
tcaagcaata tattgtatat tgccatatcg tctggtgaaa ggggttaaatt acttcacctc 1080
ttgcactttt agatgcaaat cagtttttca tttctgtaat agaaaattat tcacgtattt 1140
ttacatcatt tgtttttcct gaccagtatt taaaaccaaa aggatattct gaaaaatggc 1200
caacaatttt tttagaagta gcatcccaag cagcgtgcct aaacattaca ttgcatatgg 1260
aaataaaaaga atcaaacgct taatgcctta tttctgattt cctttttcat tttaagtgg 1320
gtggagattc cagcactccc aggacagtgg agtcagcagt aagccctggg acagggtggc 1380
aggggtgggc ccttgacctt tgcacgcctt ctcaggaacc ccctttcccg ggtgagcccc 1440
tctctgaaga gactgtcctt gggcctcctc tggaaagcag cccccagag gacagggctc 1500
ctcctgcttg cctcagggct gcctgacttg aatggcggtg gacctcgggg attactggta 1560
gataatatgc tctggtctcg cctggtggtg agttttgcca gccatggcca gggtttggct 1620
ccactggtgg cacacgtggc ctccgtggta tggacctggg ggcttctcca tcccactgtg 1680
gcctctgtgg tatggacctg gtggcttctc catcctaccc aaggtaacag tgtcttgctt 1740
catccactg actgctggga gagagcctct gggacttttc tttggggcat cattttgttt 1800
tgtcttttgt agcagggaaa ggatatgaca atggggagga cagttctttt ggaggttgg 1860
ggggccaagc caaggacagg agcaagtgtg ccctcatttt gtttctactt ttaatttctg 1920
tgtgttgccc atactgaatt atgagactaa cagatgtcta caatacaata cctgtattca 1980
aaataacaaa aataaagcct gattccttgt ttctagaaaa aaaaaaaaaa aaaaaa 2036

```

<210> 80

53

<211> 81
 <212> PRT
 <213> Homo sapiens

<400> 80

Met Leu Trp Ser Arg Leu Val Val Ser Phe Ala Ser His Gly Gln Gly
 1 5 10 15
 Leu Ala Pro Leu Val Ala His Val Ala Ser Val Val Trp Thr Trp Trp
 20 25 30
 Leu Leu His Pro Thr Val Ala Ser Val Val Trp Thr Trp Trp Leu Leu
 35 40 45
 His Pro Thr Gln Gly Asn Ser Val Leu Leu His Pro Thr Asp Cys Trp
 50 55 60
 Glu Arg Ala Ser Gly Thr Phe Leu Trp Gly Ile Ile Leu Phe Cys Leu
 65 70 75 80

Leu

<210> 81
 <211> 3465
 <212> DNA
 <213> Homo sapiens

<400> 81

atgtttttcaa atgtaaaaat aatatttttta taggtatggt tgaataaaaa atgcataatc 60
 ctgccttttct gttacagctt ttaaaaaatca gctatgtatt cctttctggt tttcgtatat 120
 gtacatataa aaaaagactt ttcttggttaa attctataag taaattttctc tgaaatgtca 180
 aaaatatgag gagaagacct ttcagacata tgaccttcat caaatggtcc cagtgggaaga 240
 agagtaataa atgaaattaa tcaagaccaa gaaactagga gggcagcggg aggtaggggga 300
 ataagggaaa aactattttc tagtttttctt actttttatga atttaacatt tttctgtaat 360
 aaatgattgt tacctttttca tttgggtgcta gaagtgggtg gagtatgact gacccaagct 420
 ttaaaaaaag tcaaaacaaa gtagctagga attttttttt tttttttgag acaggggtctc 480
 ggggtgcagt gtacagtcac ggctcactgc agcctggacc tcctgggccc aagcaatttt 540
 cccacctcag ccttggcctc ccaagttaggt gggactacag gtgctcacca ccatgcccag 600
 ccaatgtttt tattgtgtag agatggggctc ttgcatgtt gccaggctgg tcccaaactc 660
 ctgggcgcaa gcagtcctcc cactttggcc tcccaaagtg ttggaattac aggcatgagc 720
 caccacaccc agcctcagag tatgttctcc aacatgacct tcacctttgt tttctgggaa 780
 atgtccacct cacctctggt ctttcctttg ttttcatact ctttaaaata tccttttgtt 840
 cctacagact agaggtggtg aagcagttta gtgttggtcca ttctctccc tgccttcttt 900
 agtcacagac aaggtacaga tcaactgaagt ggagtgttag cacagacagg gtgtcactca 960
 ggctaaacac ttacatgtca acctctatgg cagactttac gtctcagacc ctcccttctg 1020
 ttcatttgcc tgttctttct ttcttggtcat tgggtgtgct gtgctgtgct tgatgctgag 1080
 gaagaaggac tgcttttgtc cccacagtc atactgtatt aatctgtttt catgtgtcta 1140
 tgaggaactg cctgagactg ggtaatttat aaaggaaaga ggtttaattg actcacagt 1200
 cctcagggct ggggaggcct caggaaactc agtcatggca gaagggtgaaa caaacacatc 1260
 cttcttcacg tgggtggcagg agaaagaagt gctgagcaaa agggggaagc ctcttataaa 1320
 accatcagat ctctgtgagaa ctactcact atcatgagaa gagcatggag gtaaccgccc 1380
 ccatgatcct attacctcct actgtgtccc tcccacaaca tacagggatt atgggaacta 1440
 caattcaaga tgagatttgg gtggggacac agccaaaacca tatcacatgc ctatagaaca 1500
 tgggtccagct gctactctca gggataggtc agggatccag cagacaaagc agcattcgtc 1560
 ggacattctc tgaaatgtac ttcttcttgs tttagacaaa ccttctgctc agtatcttgc 1620
 tttgggtctg cattttgcta ctgtgtcca tttcacttct ctctccattt cttttttttt 1680
 tttttttttt tttttgagat ggagtctcgc ctcagcctgg gtgacagagt gagactctgt 1740
 atataaaaaca gcgatatctc aaaatgacac ctaaaaaattt gatgaatttt aaataattgg 1800
 agtcatagag acacagggaa atgagaagag gaaacctgga gtgaaatcca tcagactgtt 1860
 ttttgaggac actcttggca ctgacctaa gtagatgact tttgcattta cctggaagga 1920

```

tggctcttgaa ttcattcatc agtattttatc catatcctgt ggaatgatat agcaattgtg 1980
gaggattatc cgaagggtct gaaaccacaca cattcgtctt aaattttctg aaattttattt 2040
acttggttta aatatgatga taagagccgc ccacctgcat gggcttgtgt ccctgctttt 2100
aatgtggatt tatgccactg atctgcattt tggacatcat aagaaatact gctgtgcttc 2160
ccctacaccc acccctaccc cacttggtta ttctttgaaa tggactgag aggacttctt 2220
tctcttatag gagccttttg gaaaaatgga attcagtagt tcaaagtctt gggcttctac 2280
tgagcagata atttgtttct aacttagggc actgtcaatc ctgtaattga ttttttttcc 2340
ccctttttta gttgattcac aacaatatgt gtatcctcta aacattttttt aacagcttta 2400
tttaggggta ttaacatact ataaatggta tgtttaatgt gaacaatttg ataagttttg 2460
acatgtttat ccctgtataa atcatcacta caatcaagat actgtgtata tccatcaacc 2520
cccaacattg tctgtgctct ttggcaattc ctcttttcta cctctccctt tccctcctg 2580
cctccatccc taggaaacca cttgtctgct ttttgtcatg atagagtagt ttacattttc 2640
taaaattgta tataaatagg atcatgtaag tatgtacttt tttggttttg cttcttttctt 2700
tcatcataat tgtttgagat ttatccatgt ttttgcagc atcagtagtt catgccttct 2760
taatgctgag tagttttact ttgtacagat gtaccacat ttgttgatcc attcacttat 2820
taatggacat ttgggttgtt ttccagtttt gggctttttac tcatgggtaca gttatgaaaa 2880
tttatgtaca aatctttgca tggatatatg ctttcattct cttgagtaca tatctgtgag 2940
tggaattgcc ggatgggatg gtagatatat atttaaaatt ttaagacaat tgacatgctg 3000
tggtccgcag tggttataca tttttgcagc agtgtattag atttcagtt gctgtgcacc 3060
ctcaccagca cttagtatca gtctttttta ctttaaccgt tctagtaagt gtgtagcagc 3120
tcattatggc tgtgatttat atttctctaa tgatattaag catcttttca tgtgctaatt 3180
tttatccata tgaaaatatg gtgaaactat tcaaactctt tgcccattta tttattagat 3240
tgttttctta ctgagttttg aaaagttttt aaagtttttt ttatagattt aggggtacaa 3300
gtgcaactgt gttacatgga tatattgtgt cttgttgaac tctggatttt agcatacca 3360
tcagctgaat agtatacctt gtaccttgag tatttcattc ctcaaccctt gaccccccakg 3420
taaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 3465

```

<210> 82

<211> 51

<212> PRT

<213> Homo sapiens

<400> 82

```

Met Met Ile Arg Ala Ala His Leu His Gly Leu Val Ser Leu Leu Leu
  1                      5                      10                      15

```

```

Met Trp Ile Tyr Ala Thr Asp Leu His Phe Gly His His Lys Lys Tyr
      20                      25                      30

```

```

Cys Cys Ala Ser Pro Thr Pro Thr Pro Leu Val Tyr Ser Leu
  35                      40                      45

```

```

Lys Trp Tyr
  50

```

<210> 83

<211> 808

<212> DNA

<213> Homo sapiens

<400> 83

```

gtatgggaag aagacccttt ctgagggtca caaaggagg acctaaagct gagcaggagg 60
cacacatgga aggagaaaat ccctctggca ggccagcctg caccctcagt ccaagggtgtc 120
attggaggaa ctggaagctg ctgcattggg ggtaaccata gcaacaataa acctcaaacc 180
tagcccaact ctttttttta ttactttttt agagacaagg tcttgctctg ttgccagggc 240
tgaagtgcag tgggtgtgat gcagctcact gcagcctcaa actcctgggc tcaagcaatc 300
ctcctgcttc agcctttgta ggagattggg cagggtgggt ggagaaatta taggaaagac 360
acaaaccttc ttggaaggcc gagaggtttt gcaaaagctt cagaaagaaa ttatggctga 420
aggcagccaa attcttatct gaagcctgag agcaaaaggc agataacagg ggagtgtat 480
aggaacttac ctagataaat ttgtttattc ctgtgtccag aaaccaacct ttgatcattc 540
acacacagga ctgctgtcta cttgggatgt tgacaatgtt tattgcccac aaattgtgtt 600

```

55

tgctccaagc ctttgtcatt aaatttgtgc taaataaatg tgagggccac cagcttaagg 660
 ggactgctaa ctctcttcgg cccctagtgc tggcagtcct ctagcctgct ctctcactga 720
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 780
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 808

<210> 84
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 84
 Met Leu Thr Met Phe Ile Ala His Lys Leu Cys Leu Leu Gln Ala Phe
 1 5 10 15
 Val Ile Lys Phe Val Leu Asn Lys Cys Glu Gly His Gln Leu Lys Gly
 20 25 30
 Thr Ala Asn Ser Leu Arg Pro Leu Val Leu Ala Val Pro
 35 40 45

<210> 85
 <211> 1024
 <212> DNA
 <213> Homo sapiens

<400> 85
 gaagacgcat tcctttcctg ccaacctctt tccagataag cccttgaggt ctcgggctga 60
 cctacacaca cacacacaca cacacacaca cacacacaca cgacagagaa 120
 catgccataa acatccttga acccatgacag gaaagcccat cccatattct gaaaaaatgc 180
 caaattaggt ttttctttct ttttggaaat cagtcattac agtaaccgaa accattgggt 240
 tcagcgaaaa tggaaagatt tagctgaatg tagtcagtcc aattaagttg gatgcaactg 300
 agtgatttag ttgcttgggt aacccagtgc ttgcttgctt tcttcattct ctgggtggaa 360
 actaagatca agacacatgt ttggggataa gttaaatgtc tgagctatct tgctcggttt 420
 atcctaagag aactttatta tgggatgagg aggtgaccca agatgagaag tggaggggga 480
 cagcgatgtt ttctaataacat cgtccagtgt tgactggctt ccttactttg cacagtgaac 540
 acaactaacc acattaattc agctttgtga agtccctgct ctctgtgggt ctatgagtca 600
 gcagcaacat tggcctaacc tccgtcccag cctcctggct caccacatgt gtacagtgtc 660
 gtttgcagtt gtactcatta tccatccatc tctctgccat cccaagcat cgctgggtgt 720
 aaaacgcaaa ctctccaccg acactgccat gcgtagtcac gtcttgatgc cttcaggggc 780
 tcagtagcta tcaaagaggg ctggagggcc tgggcaggct tgacgatgcc tgaccgagtt 840
 caagacccac accctgtagc aataccaagt gctattacat aatcaatgga cgatttatac 900
 ttttattttt tatgattatt tgtttctata ttgctgttag aaaaagtga ataaaaatac 960
 ttcaaaagaa gatatccata taaaaataaa aggagagaaa aaaaaaaaaa aaaaaaaaaa 1020
 aaaa 1024

<210> 86
 <211> 64
 <212> PRT
 <213> Homo sapiens

<400> 86
 Met Ser Gln Gln Gln His Trp Pro Asn Leu Arg Pro Ser Leu Leu Ala
 1 5 10 15
 His His Met Cys Thr Val Leu Phe Ala Val Val Leu Ile Ile His Pro
 20 25 30
 Ser Leu Cys His Pro Gln Ala Ser Leu Gly Val Lys Arg Lys Leu Ser
 35 40 45

Thr Asp Thr Ala Met Arg Ser His Val Leu Met Pro Ser Gly Ala Gln
 50 55 60

<210> 87
 <211> 867
 <212> DNA
 <213> Homo sapiens

<400> 87
 ctctgttggc tgaaggaggt aactcaaacc tcagggtttg tttttcccg gacagatagt 60
 agtgatagtg cattatatatt gaataagaaa aacaaaccag tataccttga gaaattttta 120
 aaagcatagt tgaggcatat tttttcataa ttatatactt atctgtttat tgcccattga 180
 aaatatatgt gtagaagtat ttcttctgtt atttggttact atcttcttaa tttgttccaa 240
 agaaaatgct gccatactgc attccctctg gaaggaaaaca aaacaaaaca aaactcactc 300
 aaaaccagca gtgctgctat cagataagta gatgtcaatg tatacttaca aggaaaaact 360
 aaaaaatgta atgtgttaat tcagcctttt tctatgtaat atttccaagt cagactttct 420
 tacattcctg gaatttactt tgatatacca agaataataa tgataaaatg tttgctttga 480
 ttactgtggg gggaaagatg aaatgttcaa ttatattaaa acaacaagc ttttcagaga 540
 tactggtttc ctgcccttga aggggtataaa gaatttagat catgcctgta atcccagtac 600
 tttgggaggg cgaggcaggt ggatcacctg agatcaggag ttcgagacca gcctggccaa 660
 catggcaaaa ccctgtctct actaaaaata caataattag ccaggcatgg tggcgggcac 720
 ctgtcatccc agctacttgg gaggtgagg caggagaatc gcttgaacc aggaggcagt 780
 gattgcagtg agctgagata gcaccactgc atgcaagcct gggcaataga gcgagactcc 840
 gtctcaaaaa aaaaaaaaaa aaaaaaa 867

<210> 88
 <211> 51
 <212> PRT
 <213> Homo sapiens

<400> 88
 Met Glu Asn Ile Cys Val Glu Val Phe Leu Leu Leu Phe Val Thr Ile
 1 5 10 15

Phe Leu Ile Cys Ser Lys Glu Asn Ala Ala Ile Leu His Ser Leu Trp
 20 25 30

Lys Glu Thr Lys Gln Asn Lys Thr His Ser Lys Pro Ala Val Leu Leu
 35 40 45

Ser Asp Lys
 50

<210> 89
 <211> 1797
 <212> DNA
 <213> Homo sapiens

<400> 89
 gtctcgggct agtcatggcg tccccgtctc ggagactgca gactaaacca gtcattactt 60
 gtttcaagag cgttctgcta atctacactt ttattttctg gatcactggc gttatccttc 120
 ttgcagttgg catttggggc aaggtgagcc tggagaatta cttttctctt ttaaagtga 180
 aggccaccaa tgtcccttc gtgctcattg ctactggtac cgtcattatt cttttgggca 240
 cttttggttg ttttgctacc tgccgagctt ctgcatggat gctaaaactg tatgcaatgt 300
 ttctgactct cgtttttttg gtcgaactgg tgcgtgccat cgtaggattt gttttcagac 360
 atgagattaa gaacagcttt aagaataatt atgagaaggc tttgaagcag tataactcta 420
 caggagatta tagaagccat gcagtagaca agatccaaaa tacgttgcac tgttgtggtg 480
 tcaccgatta tagagattgg acagatacta attattactc agaaaaagga tttcctaaga 540
 gttgctgtaa acttgaagat tgtactccac agagagatgc agacaaagta aacaatgaag 600
 gttgttttat aaaggtgatg accattatag agtcagaaat gggagtcgtt gcaggaattt 660

```

cctttggagt tgcttgcttc caactgattg gaatctttct cgcctactgc ctctctcgtg 720
ccataacaaa taaccagtat gagatagtgt aacccaatgt atctgtgggc ctattcctct 780
ctacctttta ggacatttag ggtccccctt gtgaattaga aagttgcttg gctggagaac 840
tgacaacact acttactgat agaccaaaaa actacaccag taggttgatt caatcaagat 900
gtatgtagac ctaaaactac accaataggc tgattcaatc aagatccgtg ctcgcagtgg 960
gctgattcaa tcaagatgta tgtttgctat gttctaagtc caccttctat cccattcatg 1020
ttagatcggt gaaaccctgt atccctctga aacactggaa gagctagtaa attgtaaattg 1080
aagtaatact gtgttcctct tgactgttat ttttcttagt agggggcctt tgggaaggcac 1140
tgtgaatttg ctattttgat gtagtggtac aagatggaaa attgattcct ctgactttgc 1200
tattgatgta gtgtgataga aaattcacc cctctgaactg gctccttccc agtcaagggt 1260
atctggtttg attgtataat ttgcaccaag aagttaaaaat gttttatgac tctctgttct 1320
gctgacaggc agagagtcac attgtgtaat ttaatttcag tcagtcaata gatggcatcc 1380
ctcatcaggg ttgccagatg gtgataacag tgtaaggcct tgggtctaag gcatccacga 1440
ctggaaggga ctactgatgt tctgtgatac atcagggttc agcacacaac ttacatttct 1500
ttgcctccaa attgagggcat ttattatgat gttcatactt tccctcttgt ttgaaagttt 1560
ctaattatta aatgggtgctg gaattgttgt attttcctta ggaattcagt ggaacttatc 1620
ttcattaaat ttagctggta ccagggtgat atgacttgct aatattatgg tcaactttaa 1680
gtcttagttt tcgtttgtgc ctttgattaa taagtataac tcttatacaa taaatactgc 1740
tttctcttaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1797

```

<210> 90

<211> 245

<212> PRT

<213> Homo sapiens

<400> 90

```

Met Ala Ser Pro Ser Arg Arg Leu Gln Thr Lys Pro Val Ile Thr Cys
  1                      5                      10                      15

```

```

Phe Lys Ser Val Leu Leu Ile Tyr Thr Phe Ile Phe Trp Ile Thr Gly
      20                      25                      30

```

```

Val Ile Leu Leu Ala Val Gly Ile Trp Gly Lys Val Ser Leu Glu Asn
      35                      40                      45

```

```

Tyr Phe Ser Leu Leu Asn Glu Lys Ala Thr Asn Val Pro Phe Val Leu
      50                      55                      60

```

```

Ile Ala Thr Gly Thr Val Ile Ile Leu Leu Gly Thr Phe Gly Cys Phe
      65                      70                      75                      80

```

```

Ala Thr Cys Arg Ala Ser Ala Trp Met Leu Lys Leu Tyr Ala Met Phe
      85                      90                      95

```

```

Leu Thr Leu Val Phe Leu Val Glu Leu Val Ala Ala Ile Val Gly Phe
      100                      105                      110

```

```

Val Phe Arg His Glu Ile Lys Asn Ser Phe Lys Asn Asn Tyr Glu Lys
      115                      120                      125

```

```

Ala Leu Lys Gln Tyr Asn Ser Thr Gly Asp Tyr Arg Ser His Ala Val
      130                      135                      140

```

```

Asp Lys Ile Gln Asn Thr Leu His Cys Cys Gly Val Thr Asp Tyr Arg
      145                      150                      155                      160

```

```

Asp Trp Thr Asp Thr Asn Tyr Tyr Ser Glu Lys Gly Phe Pro Lys Ser
      165                      170                      175

```

```

Cys Cys Lys Leu Glu Asp Cys Thr Pro Gln Arg Asp Ala Asp Lys Val
      180                      185                      190

```

Asn Asn Glu Gly Cys Phe Ile Lys Val Met Thr Ile Ile Glu Ser Glu
 195 200 205

Met Gly Val Val Ala Gly Ile Ser Phe Gly Val Ala Cys Phe Gln Leu
 210 215 220

Ile Gly Ile Phe Leu Ala Tyr Cys Leu Ser Arg Ala Ile Thr Asn Asn
 225 230 235 240

Gln Tyr Glu Ile Val
 245

<210> 91
 <211> 1992
 <212> DNA
 <213> Homo sapiens

<400> 91
 cagaaacacc attcactccg agctgtgacc ggcacccaac aacagcaaca actccactgc 60
 gccgggctga ggagcaggaa ttaggagctc gcgaataata tgaaagggat ccgcaaaggg 120
 gaaagccgag caaaggaatc caaaccttgg gaggctggca agcgaagatg cgctaaatgt 180
 ggccgcctag acttcacctc gatgaagaaa atggggatta aaagtggatt tacgttttgg 240
 aacctcgtct ttttattgac ggtgtcttgt gtgaaaggat ttattttatac atgtgggtgga 300
 actttaaaag gacttaatgg cactatagaa agccctgggt ttccatatgg atatccaaat 360
 ggtgcaaact gcacatgggt aataatagca gaagaacgaa atagaataca aattgttttt 420
 cagtcatttg ctctagaaga agaatacgac tacttatcat tatatgatgg acatcctcat 480
 cctacaaaact ttaggacaag gttaacagga ttccatctgc cacctccagt gacaagtacc 540
 aaatctgtgt tctcactacg ttgaccaggt gattttgcag ttagtgtctca tggatttaag 600
 gtatattacg aagaattgca gtagtagctc tgtggaaatc ctggtgttcc acccaaagg 660
 gtattatatt gcacaagatt cgacgtcggg gacaagatcc gctacagctg tgtaactgga 720
 tacatccttg atggccaccc tcagctcacc tgcatagcca attcagttaa tacagcttcg 780
 tgggattttc ctgttcctat ctgtagagct gaagatgctt gtggaggaac aatgagagga 840
 tccagtggca tcatatccag ccctagtttt cctaattgagt accataacaa tgctgattgc 900
 acttggaacca ttgtagcaga gcctggggac acaatttcac tcatatttac tgattttcaa 960
 atggaagaga aatatgatta cttagaaata gaaggttctg agccacctac catatgggta 1020
 tctggaatga atataaccacc accaattatc agcaacaaaa actggctcag actgcatttt 1080
 gttacagaca gcaatcatcg ataccgtgga tttagtgtc cctatcaagt gaaaaaggcc 1140
 atagattttt aatctagagg atttaaattg tttccaggga aagacaacag caacaagttt 1200
 tctatcttaa atgagggagg tattaaaaca gcttccaatt tatgcccaga tccaggagaa 1260
 ccagaaaatg ggaagagaat cggatcagat tttagccttg gatcaactgt gcagttctct 1320
 tgtgatgaag attatgtcct acagggcgca aagagcatca cctgtcaacg gatagctgaa 1380
 gtttttgctg cttggagtga tcacaggcct gtgtgtaaag tgaaaacgtg tggctctaata 1440
 cttcaaggac caagtggtag ctttacatct cccaactttc cgttccagta tgacagcaat 1500
 gcacaatgtg tctgggtcat cacagcagtg aatacaata aggttatcca gataaatttt 1560
 gaagaatttg atctggagat tggctatgat accttgacaa ttggcgatgg gggcgaagtt 1620
 ggagatccta ggacagtgt ccaagtgtg actggaagct ttgtaccaga cttgatagt 1680
 agcatgagta gccaaatgtg gctgcacctt caaacggacg aaagtgttgg atctgttgg 1740
 ttcaaggtta actacaaagg taatgattaa tttctacata ggaaatgtta tcttaataacc 1800
 accagagaat atttttaaat tcacgtttta ttgcatctac aaaattaaaa gttttgcaga 1860
 acacatgcta cttttcaaca aagatcattt cctccttaat ttaactacaa atgttaatta 1920
 cacttatctt taaataaaat gagtttttcc tttaaaaaaa aaaaaaaaaa aaaaaaaaaa 1980
 aaaaaaaaaa aa 1992

<210> 92
 <211> 556
 <212> PRT
 <213> Homo sapiens

<400> 92
 Met Lys Gly Ile Arg Lys Gly Glu Ser Arg Ala Lys Glu Ser Lys Pro
 1 5 10 15

Trp Glu Pro Gly Lys Arg Arg Cys Ala Lys Cys Gly Arg Leu Asp Phe
 20 25 30
 Ile Leu Met Lys Lys Met Gly Ile Lys Ser Gly Phe Thr Phe Trp Asn
 35 40 45
 Leu Val Phe Leu Leu Thr Val Ser Cys Val Lys Gly Phe Ile Tyr Thr
 50 55 60
 Cys Gly Gly Thr Leu Lys Gly Leu Asn Gly Thr Ile Glu Ser Pro Gly
 65 70 75 80
 Phe Pro Tyr Gly Tyr Pro Asn Gly Ala Asn Cys Thr Trp Val Ile Ile
 85 90 95
 Ala Glu Glu Arg Asn Arg Ile Gln Ile Val Phe Gln Ser Phe Ala Leu
 100 105 110
 Glu Glu Glu Tyr Asp Tyr Leu Ser Leu Tyr Asp Gly His Pro His Pro
 115 120 125
 Thr Asn Phe Arg Thr Arg Leu Thr Gly Phe His Leu Pro Pro Pro Val
 130 135 140
 Thr Ser Thr Lys Ser Val Phe Ser Leu Arg Leu Thr Ser Asp Phe Ala
 145 150 155 160
 Val Ser Ala His Gly Phe Lys Val Tyr Tyr Glu Glu Leu Gln Ser Ser
 165 170 175
 Ser Cys Gly Asn Pro Gly Val Pro Pro Lys Gly Val Leu Tyr Gly Thr
 180 185 190
 Arg Phe Asp Val Gly Asp Lys Ile Arg Tyr Ser Cys Val Thr Gly Tyr
 195 200 205
 Ile Leu Asp Gly His Pro Gln Leu Thr Cys Ile Ala Asn Ser Val Asn
 210 215 220
 Thr Ala Ser Trp Asp Phe Pro Val Pro Ile Cys Arg Ala Glu Asp Ala
 225 230 235 240
 Cys Gly Gly Thr Met Arg Gly Ser Ser Gly Ile Ile Ser Ser Pro Ser
 245 250 255
 Phe Pro Asn Glu Tyr His Asn Asn Ala Asp Cys Thr Trp Thr Ile Val
 260 265 270
 Ala Glu Pro Gly Asp Thr Ile Ser Leu Ile Phe Thr Asp Phe Gln Met
 275 280 285
 Glu Glu Lys Tyr Asp Tyr Leu Glu Ile Glu Gly Ser Glu Pro Pro Thr
 290 295 300
 Ile Trp Leu Ser Gly Met Asn Ile Pro Pro Pro Ile Ile Ser Asn Lys
 305 310 315 320
 Asn Trp Leu Arg Leu His Phe Val Thr Asp Ser Asn His Arg Tyr Arg
 325 330 335

Gly Phe Ser Ala Pro Tyr Gln Val Lys Lys Ala Ile Asp Phe Lys Ser
 340 345 350
 Arg Gly Phe Lys Leu Phe Pro Gly Lys Asp Asn Ser Asn Lys Phe Ser
 355 360 365
 Ile Leu Asn Glu Gly Gly Ile Lys Thr Ala Ser Asn Leu Cys Pro Asp
 370 375 380
 Pro Gly Glu Pro Glu Asn Gly Lys Arg Ile Gly Ser Asp Phe Ser Leu
 385 390 395 400
 Gly Ser Thr Val Gln Phe Ser Cys Asp Glu Asp Tyr Val Leu Gln Gly
 405 410 415
 Ala Lys Ser Ile Thr Cys Gln Arg Ile Ala Glu Val Phe Ala Ala Trp
 420 425 430
 Ser Asp His Arg Pro Val Cys Lys Val Lys Thr Cys Gly Ser Asn Leu
 435 440 445
 Gln Gly Pro Ser Gly Thr Phe Thr Ser Pro Asn Phe Pro Phe Gln Tyr
 450 455 460
 Asp Ser Asn Ala Gln Cys Val Trp Val Ile Thr Ala Val Asn Thr Asn
 465 470 475 480
 Lys Val Ile Gln Ile Asn Phe Glu Glu Phe Asp Leu Glu Ile Gly Tyr
 485 490 495
 Asp Thr Leu Thr Ile Gly Asp Gly Gly Glu Val Gly Asp Pro Arg Thr
 500 505 510
 Val Leu Gln Val Leu Thr Gly Ser Phe Val Pro Asp Leu Ile Val Ser
 515 520 525
 Met Ser Ser Gln Met Trp Leu His Leu Gln Thr Asp Glu Ser Val Gly
 530 535 540
 Ser Val Gly Phe Lys Val Asn Tyr Lys Gly Asn Asp
 545 550 555

<210> 93

<211> 2085

<212> DNA

<213> Homo sapiens

<400> 93

caggcgctcg cgaggggggta gctcttctag tagtgctcgg cgtcagacat ggccggaggcg 60
 atggatttgg gcaaagaccc caacggggccc acccattcct cgactctgtt cgtgaggagac 120
 gacggcagct ccatgtcctt ctacgtgcgg cccagcccgg ccaagcgctg gctgtcgacg 180
 ctcatcctgc acggcgggcg caccgtgtgc cgagtgcagg agcccggggc cgtgctgctg 240
 gccagcccgg gggaggcgct ggccgaggcc tcgggtgatt tcatctccac gcagtacatc 300
 ctggactgcg tggagcgcaa cgagaggctg gagctggagg cctatcggct gggccccgcc 360
 tcggcgggcg acaccggctc ggaagcaaag cccggggccc tggccgaggg cgccgaggag 420
 ccggagccgc agcggcacgc cgggcggatc gccttcacgg atgcggacga cgtagccatc 480
 cttacctacg tgaaggaaaa tgcccgtcgg cccagctcgg tcaccggtaa cgccttgtgg 540
 aaagcgatgg agaagagctc gctcacgcag cactcgtggc agtccctgaa ggaccgctac 600
 ctcaagcacc tgcggggcca ggagcataag tacctgctgg gggacgcgcc ggtgagcccc 660
 tcctcccaga agctcaagcg gaaggcggag gaggaccggg aggccgcgga tagcggggaa 720
 ccacagaata agagaactcc agatttgcct gaagaagagt atgtgaagga agaaatccag 780


```

gagaatgaag aagcagtcaa aaagatgctt gtggaagcca cccgggagtt tgaaggaggtt 840
gtgggtggatg agagccctcc tgatttttgaa atacatatataa ctatgtgtga tgatgatcca 900
cccacacctg aggaagactc agaaacacag cctgatgagg aggaagaaga agaagaagaa 960
aaagtttctc aaccagaggt gggagctgcc attaagatca ttcggcagtt aatggagaag 1020
tttaacttgg atctatcaac agttacacag gccttcctaa aaaatagtgg tgagctggag 1080
gctacttccg ccttcttagc gtctggtcag agagctgatg gatatcccat ttggtcccg 1140
caagatgaca tagatttgca aaaagatgat gaggatacca gagaggcatt ggtcaaaaaa 1200
tttgggtgctc agaattgtagc tcggaggatt gaatttogaa agaaataatt ggcaagataa 1260
tgagaaaaga aaaaagtcac ggtaggtgag gtggttaaaa aaaattgtga ccaatgaact 1320
ttagagagtt cttgcattgg aactggcact tattttctga ccatcgctgc tgttgctctg 1380
tgagtcctag attttttag ccaagcagag ttgtagaggg ggataaaaag aaaagaaatt 1440
ggatgtatctt acagctgtcc ttgaacaagt atcaatgtgt ttatgaaagg aagatctaaa 1500
tcagacagga gttgggtctac atagtagtaa tccattgttg gaatggaacc cttgctatag 1560
tagtgacaaa gtgaaaggaa atttaggagg cataggccat ttcaggcagc ataagtaatc 1620
tcctgtcctt tggcagaagc tcctttagat tgggatagat tccaaataaa gaatctagaa 1680
ataggagaag atttaattat gaggccttga acacggatta tcccaaacc cttgtcattt 1740
ccccagtgca gctctgattt ctagactgct ttgaaaatgc tgtattcatt ttgctaactt 1800
agtatttggg tacctgtctc tttggctgtt ctttttttgg agcccttctc agtcaagtct 1860
gccgatgtc tttctttacc taccctcag ttttccttaa aacgcgcaca caactctaga 1920
gagtgttaag aataatgtta cttggttaat gtgttattta ttgagtattg tttgtgctaa 1980
gcattgtgtt agatttaaaa aattagtggg ttgactccac tttgttgtgt tgttttcatt 2040
gttgaaaata aatataactt tgtattcgaa aaaaaaaaaa aaaaaa 2085

```

<210> 94

<211> 399

<212> PRT

<213> Homo sapiens

<400> 94

```

Met Ala Glu Ala Met Asp Leu Gly Lys Asp Pro Asn Gly Pro Thr His
  1             5             10             15

```

```

Ser Ser Thr Leu Phe Val Arg Asp Asp Gly Ser Ser Met Ser Phe Tyr
      20             25             30

```

```

Val Arg Pro Ser Pro Ala Lys Arg Arg Leu Ser Thr Leu Ile Leu His
      35             40             45

```

```

Gly Gly Gly Thr Val Cys Arg Val Gln Glu Pro Gly Ala Val Leu Leu
      50             55             60

```

```

Ala Gln Pro Gly Glu Ala Leu Ala Glu Ala Ser Gly Asp Phe Ile Ser
      65             70             75             80

```

```

Thr Gln Tyr Ile Leu Asp Cys Val Glu Arg Asn Glu Arg Leu Glu Leu
      85             90             95

```

```

Glu Ala Tyr Arg Leu Gly Pro Ala Ser Ala Ala Asp Thr Gly Ser Glu
      100            105            110

```

```

Ala Lys Pro Gly Ala Leu Ala Glu Gly Ala Ala Glu Pro Glu Pro Gln
      115            120            125

```

```

Arg His Ala Gly Arg Ile Ala Phe Thr Asp Ala Asp Asp Val Ala Ile
      130            135            140

```

```

Leu Thr Tyr Val Lys Glu Asn Ala Arg Ser Pro Ser Ser Val Thr Gly
      145            150            155            160

```

```

Asn Ala Leu Trp Lys Ala Met Glu Lys Ser Ser Leu Thr Gln His Ser
      165            170            175

```

Trp Gln Ser Leu Lys Asp Arg Tyr Leu Lys His Leu Arg Gly Gln Glu
 180 185 190
 His Lys Tyr Leu Leu Gly Asp Ala Pro Val Ser Pro Ser Ser Gln Lys
 195 200 205
 Leu Lys Arg Lys Ala Glu Glu Asp Pro Glu Ala Ala Asp Ser Gly Glu
 210 215 220
 Pro Gln Asn Lys Arg Thr Pro Asp Leu Pro Glu Glu Glu Tyr Val Lys
 225 230 235 240
 Glu Glu Ile Gln Glu Asn Glu Glu Ala Val Lys Lys Met Leu Val Glu
 245 250 255
 Ala Thr Arg Glu Phe Glu Glu Val Val Val Asp Glu Ser Pro Pro Asp
 260 265 270
 Phe Glu Ile His Ile Thr Met Cys Asp Asp Asp Pro Pro Thr Pro Glu
 275 280 285
 Glu Asp Ser Glu Thr Gln Pro Asp Glu Glu Glu Glu Glu Glu Glu
 290 295 300
 Lys Val Ser Gln Pro Glu Val Gly Ala Ala Ile Lys Ile Ile Arg Gln
 305 310 315 320
 Leu Met Glu Lys Phe Asn Leu Asp Leu Ser Thr Val Thr Gln Ala Phe
 325 330 335
 Leu Lys Asn Ser Gly Glu Leu Glu Ala Thr Ser Ala Phe Leu Ala Ser
 340 345 350
 Gly Gln Arg Ala Asp Gly Tyr Pro Ile Trp Ser Arg Gln Asp Asp Ile
 355 360 365
 Asp Leu Gln Lys Asp Asp Glu Asp Thr Arg Glu Ala Leu Val Lys Lys
 370 375 380
 Phe Gly Ala Gln Asn Val Ala Arg Arg Ile Glu Phe Arg Lys Lys
 385 390 395

<210> 95

<211> 1427

<212> DNA

<213> Homo sapiens

<400> 95

ggaagtcaca agtactctct cctacttccc ttaaacttac ccgcattcct gaaaaagaac 60
 aataaccctg tatacctttt atttacagta gacctttaca cagtcacccc actattttaa 120
 ctctgtctac ttatgcccct aatcaccatt ctacacctact tctaaatgcc ctgcttttgt 180
 ctatactgcc agttcacgct tttcctccag accattgtag ctgatacttc atggagtcac 240
 cctccagctg ctacccttaa ctctctctta gaggatag atgaccttct gtggcaagt 300
 actctccaat tcttccatcc tgatgaagtt cttttctttt ataacttact tttgtcttac 360
 tcccgttctc ctgccaccct ctatccctcc ctaattatct csagaataacc atcaacctca 420
 cccactccct cttcaccatc tccaatcctt cctatgcatt tccctctctt cctcmtacta 480
 tacaggtgtc cctgcccctgc cagcccastg ggcaacttcc cccatctccc tatacctcca 540
 aacctctttc agtgaccccc aactttaccc tcctgaacaa cttctttact tcctagaaaa 600
 attcagcaaa aactcccctg atacctcata ccaacaagct gctgctctcc tccataccta 660
 cctacgaaat ctatctccct acgtcacttc cacacctcct gttcttggac ccctcactat 720

```

acaaacaact atccccattg ctgccccctt atgcatctcc ctacaattac ctgctggaat 780
tcccttgggt tacctcccat cttccttatg ttcctttact ctttacctcc aaggccctgc 840
caccacacatt aacaaaaata ttggagcatt ccagcttcgt attacagaaa agccctccct 900
catcactaac actcttaaaa acatcagtag caacttttgc ctaggaagac atttaccttg 960
gctctcactc catccttggc tatccttccc ctgttcaatg gattcccctc caaggccttc 1020
tgctgcctg tttataccta gtcttataaa taacagtga tggctactta cagataccaa 1080
attctttttt tcacaccatt aaaacagaac ctctccctct acacagttat cctaccaaac 1140
cccactacaa cctctaatag ccgctgccct tgctggatcc ctagggtctt ggggtgcagga 1200
ctctgcttcc agaacacact ctcatttttt ttactctcca cttccagtta tgcctgcctc 1260
atggactctt tttgtttctg ttgggttttc cgcatacatg tgccctccctg ccaattggac 1320
aggcaccttc actttaatct tccttactcc caagatcgag tttacaaatg gaaacaaaca 1380
actccccatt cccctcataa ctccaacatg acaaaaaaaaa aaaaaaa 1427

```

<210> 96
 <211> 129
 <212> PRT
 <213> *Homo sapiens*

<220>
 <221> UNSURE
 <222> (104)

<220>
 <221> UNSURE
 <222> (115)

<400> 96
 Met Pro Cys Phe Cys Leu Tyr Cys Gln Phe Thr Leu Phe Leu Gln Thr
 1 5 10 15
 Ile Val Ala Asp Thr Ser Trp Ser His Pro Pro Ala Ala Thr Leu Asn
 20 25 30
 Ser Leu Leu Glu Trp Ile Asp Asp Leu Leu Trp Gln Ser Thr Leu Gln
 35 40 45
 Phe Phe His Pro Asp Glu Val Leu Phe Phe Tyr Thr Tyr Ser Leu Ser
 50 55 60
 Tyr Ser Arg Ser Pro Ala Thr Leu Tyr Pro Ser Leu Ile Ile Ser Arg
 65 70 75 80
 Ile Pro Ser Thr Ser Pro Thr Pro Ser Ser Pro Ser Pro Ile Leu Pro
 85 90 95
 Met His Phe Pro Leu Phe Leu Xaa Leu Tyr Arg Cys Pro Cys Pro Ala
 100 105 110
 Ser Pro Xaa Gly Asn Phe Pro His Leu Pro Ile Pro Pro Asn Leu Phe
 115 120 125
 Gln

<210> 97
 <211> 2482
 <212> DNA
 <213> *Homo sapiens*

<220>
 <221> unsure

<222> (1663)

<400> 97

```

ggcgcagctc tctccccctc cgcagttctca gtggcgagct ccgggtgctg tggccccggc 60
ttggcggggc ggcctccggc tcaggctggc tgagaggctc ccagctgcag cgtccccgcc 120
cgcctcctcg ggagctctga tctcagctga cagtgcctc ggggaccaa caagcctggc 180
aggacaaaat tagaagatca aaatggaaaa tatgctgctt tggttgatat ttttcacccc 240
tgggtggacc ctcatgatg gatctgaaat ggaatgggat tttatgtggc acttgagaaa 300
ggtagccccg attgtcagtg aaaggacttt ccattctacc agccccgcat ttgaggcaga 360
tgctaagatg atggtaaata cagtgtgtgg catcgaatgc cagaaagaac tcccaactcc 420
cagcctttct gaattggagg attatctttc ctatgagact gtctttgaga atggcaccgc 480
aaccttaacc aggggtgaaag ttcaagattt ggttcttgag ccgactcaaa atatcaccac 540
aaaggagata tctgttagga gaaagagaca ggtgtatggc accgacagca ggttcagcat 600
cttgacaaaa aggttcttaa ccaatttccc tttcagcaca gctgtgaagc tttccacggg 660
ctgtagtggc attctcattt cccctcagca tgttctaact gctgcccact gtgttcata 720
tggaaaggac tatgtcaaag ggagtaaaaa gctaagggtg gggttgttga agatgaggaa 780
taaaagtggg ggcaagaaac gtcgaggttc taagaggagc aggagagaag ctagtgttg 840
tgaccaaaga gagggtagca gagagcatct gcaggagaga gcgaagggtg ggagaagaag 900
aaaaaaatct ggcgggggtc agaagattgc cgaaggagg ccttcctttc agtggaccgc 960
ggtcaagaat acccacattc cgaagggtc ggacagagga ggcatggggg acgctacctt 1020
ggactatgac tatgctcttc tggagctgaa gcgtgctcac aaaaagaaat acatggaact 1080
tggaaatcag ccaacgatca agaaaatgcc tgggtggaatg atccacttct caggatttga 1140
taacgatagg gctgatcagt tggctctatc gttttcagc gtgtccgacg aatccaatga 1200
tctcctttac caatactgcg atgctgagtc ggttcaccac ggttcggggg tctatctgcg 1260
tctgaaagat ccagacaaaa agaattggaa gcgcaaaatc attcggtctc actcagggca 1320
ccagtggttg gatgtccacg gggttcagaa ggactacaac gttgctgttc gcactcactc 1380
cctaaaatac gccagattt gcctctggat tcacgggaac gatgccaat gtgcttacgg 1440
ctaacagaga cctgaaacag ggcggtgtat catctaaatc acagagaaaa ccagctctgc 1500
ttaccgtagt gagatcactt cataggttat gcctggactt gaactctgtc aatagcattt 1560
caacattttt caaaatcagg agattttcgt ccatttaaaa aatgtatagg tgcagatatt 1620
gaaactaggt gggcacttca atgccaagta tatactcttc ttnacatggt gatgagtttc 1680
attttagtaa aaattttgtt gccttcttaa aaatttaga cactttaaac cttcaaacag 1740
gtattataaa taacatgtga ctctttaatg gacttattct cagggtccta ctctaagaag 1800
aatctaatag gatgtggtt gtgtattaaa tgtgaaattg catagataaa ggtagatgg 1860
aaagcaatta gtatcagaat agagacagaa agttacaaca cagtttgtac tactctgaga 1920
tggatccatt cagctcatgc cctcaatgtt tatattgtgt tatctgttgg gtctgggaca 1980
tttagtttag tttttttgaa gaattacaaa tcagaagaaa aagcaagcat tataaacaaa 2040
actaataact gttttactgc tttaagaaat aacaattaca atgtgtatta tttaaaaatg 2100
ggagaaatag tttgttctat gaaataaacc tagtttagaa ataggggaagc tgagacattt 2160
taagatctca agtttttatt taactaatac tcaaaatatg gacttttcat gtatgcata 2220
ggaagacact tcacaaatta tgaatgatca tgtgttgaaa gccacattat tttatgctat 2280
acattctatg tatgaggtgc tacattttta ggacaaaaga ttctgtaatc tttttcaaga 2340
aagagtcttt ttctccttga caaaatccag cttttgtatg aggactatag ggtgaattct 2400
ctgattagta attttagata tgtcctttcc taaaaatgaa taaaatttat gaatatgact 2460
taaaaaaaaa aaaaaaaaaa aa

```

<210> 98

<211> 413

<212> PRT

<213> Homo sapiens

<400> 98

```

Met Glu Asn Met Leu Leu Trp Leu Ile Phe Phe Thr Pro Gly Trp Thr
  1                      5                      10                      15

```

```

Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His Leu Arg
  20                      25                      30

```

```

Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu Thr Ser Pro
  35                      40                      45

```

65

Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr Val Cys Gly Ile
 50 55 60
 Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu Ser Glu Leu Glu Asp
 65 70 75 80
 Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn Gly Thr Arg Thr Leu Thr
 85 90 95
 Arg Val Lys Val Gln Asp Leu Val Leu Glu Pro Thr Gln Asn Ile Thr
 100 105 110
 Thr Lys Gly Val Ser Val Arg Arg Lys Arg Gln Val Tyr Gly Thr Asp
 115 120 125
 Ser Arg Phe Ser Ile Leu Asp Lys Arg Phe Leu Thr Asn Phe Pro Phe
 130 135 140
 Ser Thr Ala Val Lys Leu Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser
 145 150 155 160
 Pro Gln His Val Leu Thr Ala Ala His Cys Val His Asp Gly Lys Asp
 165 170 175
 Tyr Val Lys Gly Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg
 180 185 190
 Asn Lys Ser Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg
 195 200 205
 Glu Ala Ser Gly Gly Asp Gln Arg Glu Gly Thr Arg Glu His Leu Gln
 210 215 220
 Glu Arg Ala Lys Gly Gly Arg Arg Arg Lys Lys Ser Gly Arg Gly Gln
 225 230 235 240
 Lys Ile Ala Glu Gly Arg Pro Ser Phe Gln Trp Thr Arg Val Lys Asn
 245 250 255
 Thr His Ile Pro Lys Gly Trp Ala Arg Gly Gly Met Gly Asp Ala Thr
 260 265 270
 Leu Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Arg Ala His Lys Lys
 275 280 285
 Lys Tyr Met Glu Leu Gly Ile Ser Pro Thr Ile Lys Lys Met Pro Gly
 290 295 300
 Gly Met Ile His Phe Ser Gly Phe Asp Asn Asp Arg Ala Asp Gln Leu
 305 310 315 320
 Val Tyr Arg Phe Cys Ser Val Ser Asp Glu Ser Asn Asp Leu Leu Tyr
 325 330 335
 Gln Tyr Cys Asp Ala Glu Ser Gly Ser Thr Gly Ser Gly Val Tyr Leu
 340 345 350
 Arg Leu Lys Asp Pro Asp Lys Lys Asn Trp Lys Arg Lys Ile Ile Ala
 355 360 365
 Val Tyr Ser Gly His Gln Trp Val Asp Val His Gly Val Gln Lys Asp
 370 375 380

Tyr Asn Val Ala Val Arg Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys
 385 390 395 400

Leu Trp Ile His Gly Asn Asp Ala Asn Cys Ala Tyr Gly
 405 410

<210> 99
 <211> 2054
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (650)

<400> 99
 agcctggctg tgggcccac tttggaaaaa agatctggga atgattgtct agcctccagc 60
 ctcaacttac ttgatgcttg agagactcaa agccccgtgg tcagctgccc tgcaaagaaa 120
 gtattttgac cttggcattt ggacacctcc catctctccc atkgccctka caatgctgaa 180
 tgggctcctg attaaggact caagcccwcc tatgctgctg cwccagggtw acaagactgc 240
 ccwgttmgat wccttcwact accagaktct ctttatgcm aagtgtctttg accatttccc 300
 tgagatctta tttatccacc sgacctataa cccaaggggt aaggtcttat atwccttccc 360
 ggtggatgga cctcsggtgc agctggaggg tctcttgcc cgagcagtct actttgccat 420
 cctgccaag gaggacactg aaggcctggc ccagatgttc caagtattca agaagttaa 480
 tccagcatgg gagagagtct gtaccatcct ggtggatcct catttccttc cactgcctat 540
 cctagctatg gagttcccca cagctgaggt ccttctctca gccttccaca tttgtaagtt 600
 cctccaggcc aagttctatc agctgtccct tgaacggccc gtggaaaggn tgctcctgac 660
 ctccctgcag agcacaatgt gctcagccac agcaggcaac ctgagaaaag tgatacact 720
 cctgagcaac tgcacccctc cagccaagct gcccagactt cactcacact ggctgctcaa 780
 cgaccgcatc tggttggtc accgctggag aagccgagct gagagcagcc actacttcca 840
 ggcctcag gtcaccaccc acatcctcag ccagttcttt ggtaccaccc catctgagaa 900
 acaaggtatg gcttctctgt tccgttacat gcagcagaac tctgcagaca aggcaaaact 960
 caaccagggc ctgtgtgccc agaacaatca tgctcccca gacatcatcc ccgaaagccc 1020
 caaactggag cagctggtag aatcccatc ccagcactcc ctcaatgcca tctgcacagg 1080
 gccagcagcc caactgtgct tgggcgagct tgctgtgggc cagaaatcca cacacctcat 1140
 tggctctggc tcagaaaaga tgaacataca gatcctggaa gatacccata aggtgcagcc 1200
 ccakccccct gccagctgca kctgctactt taaccaggcc ttccacctgc cctgccgcca 1260
 catcctagcc atgctcagtg cccgcccgca ggtgtctccag cccgacatgc tgccggctca 1320
 gtggagggca ggctgtgcta ccagtcctga cagcatcctg ggcagcaagt ggagtgcagc 1380
 cctggataag cactgtgcag tgactcacct caccgaggag gtgggtcagc tgttgagca 1440
 ctgcaccaag gaggagtgtg agcggaggta tagcacctg cgggaactgg ccgacagctg 1500

 gattgggcct tatgagcagg tccaactctg attattctcg atgccagag atgctcatgc 1560
 acctgtgcac actcacatcc acccatacac acacacacac acacacacac acacacacac 1620
 tcccttacac ttgtacttcc gtgggcccct cttccagaac aaggacaaca aggacaaggt 1680
 tgaagggtct tctcatctac catggcctgc actccagcct gggagggtga gactccatct 1740
 aaaaaaata aaataaatgg caaccctgg tctaagataa gagataaaac atcagggtgt 1800
 gagggttagg tttggggctt ggtagcagtt gccccagtca tgagatgact cacttaaccc 1860
 gtctccttta agtgagctgg gctgggaggg ttctacaggg ggaagaggcc cctctgggga 1920
 gctgactcag ccaggctccc tgaacttttt tcttctgccc atcctgggggt caataaaact 1980
 gaatgttgca tattctaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2040
 aaaaaaaaaa aaaa 2054

<210> 100
 <211> 485
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE

<222> (25)

<220>

<221> UNSURE

<222> (30)

<220>

<221> UNSURE

<222> (50)

<220>

<221> UNSURE

<222> (53)

<220>

<221> UNSURE

<222> (57) .. (58)

<220>

<221> UNSURE

<222> (60)

<220>

<221> UNSURE

<222> (62)

<220>

<221> UNSURE

<222> (65)

<220>

<221> UNSURE

<222> (69)

<220>

<221> UNSURE

<222> (83)

<220>

<221> UNSURE

<222> (94)

<220>

<221> UNSURE

<222> (101)

<220>

<221> UNSURE

<222> (107)

<220>

<221> UNSURE

<222> (193)

<220>

<221> UNSURE

<222> (377)

<220>

<221> UNSURE

<222> (383)

<400> 100

```

Met Leu Glu Arg Leu Lys Ala Pro Trp Ser Ala Ala Leu Gln Arg Lys
 1           5           10           15

Tyr Phe Asp Leu Gly Ile Trp Thr Xaa Pro Ile Ser Pro Xaa Ala Leu
 20           25           30

Thr Met Leu Asn Gly Leu Leu Ile Lys Asp Ser Ser Pro Pro Met Leu
 35           40           45

Leu Xaa Gln Val Xaa Lys Thr Ala Xaa Xaa Asp Xaa Phe Xaa Tyr Gln
 50           55           60

Xaa Cys Phe Met Xaa Ser Val Phe Asp His Phe Pro Glu Ile Leu Phe
 65           70           75           80

Ile His Xaa Thr Tyr Asn Pro Arg Gly Lys Val Leu Tyr Xaa Phe Leu
 85           90           95

Val Asp Gly Pro Xaa Val Gln Leu Glu Gly Xaa Leu Ala Arg Ala Val
100           105           110

Tyr Phe Ala Ile Pro Ala Lys Glu Asp Thr Glu Gly Leu Ala Gln Met
115           120           125

Phe Gln Val Phe Lys Lys Phe Asn Pro Ala Trp Glu Arg Val Cys Thr
130           135           140

Ile Leu Val Asp Pro His Phe Leu Pro Leu Pro Ile Leu Ala Met Glu
145           150           155           160

Phe Pro Thr Ala Glu Val Leu Leu Ser Ala Phe His Ile Cys Lys Phe
165           170           175

Leu Gln Ala Lys Phe Tyr Gln Leu Ser Leu Glu Arg Pro Val Glu Arg
180           185           190

Xaa Leu Leu Thr Ser Leu Gln Ser Thr Met Cys Ser Ala Thr Ala Gly
195           200           205

Asn Leu Arg Lys Leu Tyr Thr Leu Leu Ser Asn Cys Ile Pro Pro Ala
210           215           220

Lys Leu Pro Glu Leu His Ser His Trp Leu Leu Asn Asp Arg Ile Trp
225           230           235           240

Leu Ala His Arg Trp Arg Ser Arg Ala Glu Ser Ser His Tyr Phe Gln
245           250           255

Ser Leu Glu Val Thr Thr His Ile Leu Ser Gln Phe Phe Gly Thr Thr
260           265           270

Pro Ser Glu Lys Gln Gly Met Ala Ser Leu Phe Arg Tyr Met Gln Gln
275           280           285

Asn Ser Ala Asp Lys Ala Asn Phe Asn Gln Gly Leu Cys Ala Gln Asn
290           295           300

Asn His Ala Pro Pro Asp Ile Ile Pro Glu Ser Pro Lys Leu Glu Gln
305           310           315           320

```


69,

Leu Val Glu Ser His Ile Gln His Ser Leu Asn Ala Ile Cys Thr Gly
 325 330 335
 Pro Ala Ala Gln Leu Cys Leu Gly Glu Leu Ala Val Val Gln Lys Ser
 340 345 350
 Thr His Leu Ile Gly Ser Gly Ser Glu Lys Met Asn Ile Gln Ile Leu
 355 360 365
 Glu Asp Thr His Lys Val Gln Pro Xaa Pro Pro Ala Ser Cys Xaa Cys
 370 375 380
 Tyr Phe Asn Gln Ala Phe His Leu Pro Cys Arg His Ile Leu Ala Met
 385 390 395 400
 Leu Ser Ala Arg Arg Gln Val Leu Gln Pro Asp Met Leu Pro Ala Gln
 405 410 415
 Trp Thr Ala Gly Cys Ala Thr Ser Leu Asp Ser Ile Leu Gly Ser Lys
 420 425 430
 Trp Ser Glu Thr Leu Asp Lys His Leu Ala Val Thr His Leu Thr Glu
 435 440 445
 Glu Val Gly Gln Leu Leu Gln His Cys Thr Lys Glu Glu Phe Glu Arg
 450 455 460
 Arg Tyr Ser Thr Leu Arg Glu Leu Ala Asp Ser Trp Ile Gly Pro Tyr
 465 470 475 480
 Glu Gln Val Gln Leu
 485

<210> 101
 <211> 700
 <212> DNA
 <213> Homo sapiens

<400> 101
 gggggtttga aaggagctgc tcttgctggc tccggtgcag gggatgaatg ccagtgaatg 60
 ccagtgttca gcagggtctcc tgccaggcgg cactccaggg tccggcccaa ggtgactgtc 120
 ctgaactatg cctccccgat aaccgcagtc agccggccac tgaatgagat ggtcttgacc 180
 ccactgacag agcaggaggg ggaagcctac ctggagaagt gtggcagcgt gcggcggcac 240
 acggtggcca atgcccactc ggacatccag ctgctggcca tggccaccat gatgcactcs 300
 ggcctggggg aggaggccar cagtgagaac aagtkcctgc tctgcccacc carcttcccc 360
 ccgccccacc sgcagtgtc cagtkagccc aacatcaccg acaaccctga cggactggag 420
 gagggggcca ggggcagcca ggagggtcg gagctgaact gtgcttcctt cagctgagtc 480
 gccacccctg ggcctttcca tctcctgttt tgcaaccagg atgrggacce ctccatctcc 540
 gtggattact gaggggggct cttgctttat gcgatgctgc cttatttcct ttagggtagt 600
 gtccctggtca aaatgacctc aggggaaacc gttgttgtaa acctttttat tttggaaaaa 660
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 700

<210> 102
 <211> 139
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (88)

<220>
 <221> UNSURE
 <222> (93)

<220>
 <221> UNSURE
 <222> (99)

<220>
 <221> UNSURE
 <222> (105)

<220>
 <221> UNSURE
 <222> (110)

<400> 102
 Met Pro Val Phe Ser Arg Ala Pro Ala Arg Arg His Ser Arg Val Arg
 1 5 10 15
 Pro Lys Val Thr Val Leu Asn Tyr Ala Ser Pro Ile Thr Ala Val Ser
 20 25 30
 Arg Pro Leu Asn Glu Met Val Leu Thr Pro Leu Thr Glu Gln Glu Gly
 35 40 45
 Glu Ala Tyr Leu Glu Lys Cys Gly Ser Val Arg Arg His Thr Val Ala
 50 55 60
 Asn Ala His Ser Asp Ile Gln Leu Leu Ala Met Ala Thr Met Met His
 65 70 75 80
 Ser Gly Leu Gly Glu Glu Ala Xaa Ser Glu Asn Lys Xaa Leu Leu Leu
 85 90 95
 Pro Pro Xaa Phe Pro Pro Pro His Xaa Gln Cys Ser Ser Xaa Pro Asn
 100 105 110
 Ile Thr Asp Asn Pro Asp Gly Leu Glu Glu Gly Ala Arg Gly Ser Gln
 115 120 125
 Glu Gly Ser Glu Leu Asn Cys Ala Ser Leu Ser
 130 135

<210> 103
 <211> 658
 <212> DNA
 <213> Homo sapiens

<400> 103
 cccgtcagtt ctgctcacgt gaggtgcttc atgaaccctc tctctgctca ctacctgtaa 60
 cagtgggtgca aatgaatgtt tataccatt ttcgaggatc ccatcaggga caagtgcagg 120
 gcagtggccc atcagggtgg tgtctacaag ggaactttgg tccatctctc ttcagtgact 180
 ggaggagccc ctggccagca tccttcacac castgctgct tgcaggcaca ggactggccc 240
 ccaccttccc ggcctccagc gtggtggcaa gcctgcctga acctgggagt tcctcagggc 300
 ccacttccaa atgccactga gccacagcag ggaacaagaa tcaaagagca cccacccgc 360
 caccatgcc tatggccccc tccaagggtg tcagtggggc tcagtggggc ctacaggccc 420
 tcctcgaatc cagccccatc tgcaagtccc aaagaaactt ttctaaagt tctggaatgc 480
 ggggtgcaacc ctcactgggt tttgccccat ttttatgttc cattcatttc actgggattc 540
 tgagaggggg aagataaact tgggttcaag ctaccctagc tgaccagga gttccatgga 600
 aacagaattc tgaaaaaaa aaaaaataaa taaataaata attaaaaaaa aaaaaaaa 658

71,

<210> 104
 <211> 155
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (46)

<400> 104
 Met Phe Ile Pro Ile Phe Glu Asp Pro Ile Arg Asp Lys Cys Arg Ala
 1 5 10 15
 Val Ala His Gln Gly Gly Val Tyr Lys Gly Thr Leu Val His Leu Ser
 20 25 30
 Ser Val Thr Gly Gly Ala Pro Gly Gln His Pro Ser Thr Xaa Cys Cys
 35 40 45
 Leu Gln Ala Gln Asp Trp Pro Pro Pro Ser Arg Pro Pro Ala Trp Trp
 50 55 60
 Gln Ala Cys Leu Asn Leu Gly Val Pro Gln Gly Pro Leu Pro Asn Ala
 65 70 75 80
 Thr Glu Pro Gln Gln Gly Thr Arg Ile Lys Glu His Pro Thr Arg His
 85 90 95
 Pro Cys Leu Trp Pro Pro Pro Arg Val Ser Val Gly Phe Ser Gly Pro
 100 105 110
 Tyr Arg Pro Ser Ser Asn Pro Ala Pro Ser Ala Ser Pro Lys Glu Thr
 115 120 125
 Phe Leu Lys Phe Leu Glu Cys Gly Cys Asn Pro His Trp Phe Leu Pro
 130 135 140
 His Phe Tyr Val Pro Phe Ile Ser Leu Gly Phe
 145 150 155

<210> 105
 <211> 836
 <212> DNA
 <213> Homo sapiens

<400> 105
 atatctttat gattttctcc ttttctagtt tgggattgac ttaagcaaat tagattttta 60
 ggaccaagca actaacagaa aatacatcat ggctgtacat ttggagggga aaaaaatagt 120
 gtatcataga ataattcatc tcttgtcata tactttctcc cagttttgac ccagcaaaac 180
 aaagagaagc ctactagac aaaatgcacc ttattcttac aagggtggaa acaatacatt 240
 gaaatagcca ggtacttgaa atgggagaag gataatgaac agcgaggaca agacagtttg 300
 ccatTTTTcc gcgctctattg ctctctttct tatttctgca cctttattgc ttctaattgg 360
 ttcaactatg tgtgtttata tttttaggaa tggaggaaat accttaggaa gcagatgaat 420
 tattgatcat atacagaaat gatagagaca gtaggaaata tgtttgatgg aagccctgtg 480
 tatataattt tggggggagg ggcttgaagt cacttggtac acagggtttt gggtaaggat 540
 tggagaaaat ggggaataaat ttttctagaa gcagaactat gttctgaatt ggcatctttg 600
 aaagggggaa taaaccctta agtgggtggg actgtaactt tgtttgggga gacaaagagg 660
 agactctctt gagaccttta ttatcaggat gaggtttaaa gtcagatccc aaggaaaaaa 720
 cagccctagt gaaacttcca agctctttga gagttgactt tttggtttg atagaaaatg 780
 gaagtaagga taatagattt gactgtgtgc catggtagtg gaaaaaaaa aaaaaa 836

72.

<210> 106

<211> 47

<212> PRT

<213> Homo sapiens

<400> 106

Met Asn Ser Glu Asp Lys Thr Val Gly His Phe Ser Ala Ser Ile Ala
 1 5 10 15

Leu Phe Leu Ile Ser Ala Pro Leu Leu Leu Leu Met Gly Ser Thr Met
 20 25 30

Cys Val Tyr Ile Phe Arg Asn Gly Gly Asn Thr Leu Gly Ser Arg
 35 40 45

<210> 107

<211> 1581

<212> DNA

<213> Homo sapiens

<400> 107

agaaaaacgg atcacagcca ctatggatga catgttgtct actcgggtcta gcaccttgac 60
 cgaggatgga gctaagagtt cagaggccat caaggagagc agcaagtttc catttggcat 120
 tagccagca cagagccacc ggaacatcaa gatcctagag gacgaacccc acagtaagga 180
 tgagacccca ctgtgtaccc ttctggactg gcaggattct cttgccaagc gctgcgtctg 240
 tgtgtccaat accattcgaa gcctgtcatt tgtgccaggc aatgactttg agatgtccaa 300
 acaccaggg ctgctgctca tctggggcaa gctgatcctg ctgcaccaca agcaccaga 360
 acggaagcag gcaccactaa cttatgaaaa ggaggaggaa caggaccaag ggtgagctgc 420
 aacaaaatgg agtgggtggg ggactgcttg gagatgctcc gggaaaacac cttgggttaca 480
 ctgcgaaca tctcggggca gttggacctt tctccatacc ccgagagcat ttgcctgcct 540
 gtcctggacg gactcctaca ctgggcagtt tgcccttcag ctgaagccca ggacctctt 600
 tccacctgg gccccaatgc cgtcccttcc ccgagagac tggctcttga aacctcagc 660
 aaactcagca tccaggacaa caatgtggac ctgattcttg ccacaccccc cttcagccgc 720
 ctggagaagt tgtatagcac tatggtgcgc ttcctcagtg accgaaagaa cccggtgtgc 780
 cgggagatgg ctgtggtact gctggccaac ctggctcagg gggacagcct ggcagctcgt 840
 gccattgcag tgcagaaggg cagtatcggc aacctcctgg gcttcctaga ggacagcctt 900
 gccgccacac agttccagca gagccaggcc agcctcctcc acatgcagaa cccacctttt 960
 gagccaacta gtgtggacat gatgcggcgg gctgcccgcg cgctgcttgc cttggccaag 1020
 gtggacgaga accactcaga gtttactctg tacgaatcac ggctgttga catctcggta 1080
 tcaccgttga tgaactcatt ggtttcacaa gtcattttgt atgtactgtt tttgattggc 1140
 cagtcatgac agccgtggga cacctcccc ccccggtgtg tgtgtgcgtg tgtggagaac 1200
 ttagaaactg actggtgccc tttatttatg caaaaccacc tcagaatcca gtttaccctg 1260
 tgctgtccag cttctccctt gggaaaaagt ctctcctgtt tctctctcct ccttccacct 1320
 cccctccctc catcacctca cgcctttctg ttccttgtec tcaccttact cccctcagga 1380
 ccctacccca cctcttttga aaagacaaag ctctgcctac atagaagact ttttttat 1440
 taaccaaagt tactgttggt tacagtgagt ttggggaaaa aaaataaaat aaaaatggct 1500
 ttcccagtc ttgcatcaac gggatgccac atttcataac tgtttttaat ggtaaaaaaa 1560
 aaaaaaaaaa aaaaaaaaaa a 1581

<210> 108

<211> 240

<212> PRT

<213> Homo sapiens

<400> 108

Met Glu Trp Trp Trp Asp Cys Leu Glu Met Leu Arg Glu Asn Thr Leu
 1 5 10 15

Val Thr Leu Ala Asn Ile Ser Gly Gln Leu Asp Leu Ser Pro Tyr Pro
 20 25 30

Glu Ser Ile Cys Leu Pro Val Leu Asp Gly Leu Leu His Trp Ala Val
 35 40 45
 Cys Pro Ser Ala Glu Ala Gln Asp Pro Phe Ser Thr Leu Gly Pro Asn
 50 55 60
 Ala Val Leu Ser Pro Gln Arg Leu Val Leu Glu Thr Leu Ser Lys Leu
 65 70 75 80
 Ser Ile Gln Asp Asn Asn Val Asp Leu Ile Leu Ala Thr Pro Pro Phe
 85 90 95
 Ser Arg Leu Glu Lys Leu Tyr Ser Thr Met Val Arg Phe Leu Ser Asp
 100 105 110
 Arg Lys Asn Pro Val Cys Arg Glu Met Ala Val Val Leu Leu Ala Asn
 115 120 125
 Leu Ala Gln Gly Asp Ser Leu Ala Ala Arg Ala Ile Ala Val Gln Lys
 130 135 140
 Gly Ser Ile Gly Asn Leu Leu Gly Phe Leu Glu Asp Ser Leu Ala Ala
 145 150 155 160
 Thr Gln Phe Gln Gln Ser Gln Ala Ser Leu Leu His Met Gln Asn Pro
 165 170 175
 Pro Phe Glu Pro Thr Ser Val Asp Met Met Arg Arg Ala Ala Arg Ala
 180 185 190
 Leu Leu Ala Leu Ala Lys Val Asp Glu Asn His Ser Glu Phe Thr Leu
 195 200 205
 Tyr Glu Ser Arg Leu Leu Asp Ile Ser Val Ser Pro Leu Met Asn Ser
 210 215 220
 Leu Val Ser Gln Val Ile Cys Asp Val Leu Phe Leu Ile Gly Gln Ser
 225 230 235 240

<210> 109

<211> 1684

<212> DNA

<213> Homo sapiens

<400> 109

ctgcctgatt tgggaagcgc tgcaaggaca accggctggg gtccttgccg gccgcggctc 60
 agggaggagc accgactgcg ccgcaccctg agagatgggt ggtgccatgt ggaaggatgat 120
 tgtttcgctg gtcctgttga tgcctggccc ctgtgatggg ctgtttcact ccctatacag 180
 aagtgtttcc atgccaccta agggagactc aggacagcca ttatttctca ccccttacat 240
 tgaagctggg aagatccaaa aaggaagaga attgagtttg gtcggtcctt tcccaggact 300
 gaacatgaag agttatgccg gcttcctcac cgtgaataag acttacaaca gcaacctctt 360
 cttctggttc ttcccagctc agatacagcc agaagatgcc ccagtagttc tctggctaca 420
 ggggtgggccc ggaggttcat ccatgttttg actccttttg gaacatgggc cttatgttgt 480
 cacaagtaac atgaccttgc gtgacagaga cttcccctgg accacaacgc tctccatgct 540
 ttacattgac aatccagtgg gcacaggctt cagttttact gatgataccc acggatatgc 600
 agtcaatgag gacgatgtag cacgggattt atacagtgc ctaattcagt ttttccagat 660
 atttcctgaa tataaaaata atgactttta tgtcactggg gagtcttatg cagggaaata 720
 tgtgccagcc attgcacacc tcatccattc cctcaaccct gtgagagagg tgaagatcaa 780
 cctgaacgga attgctattg gagatggata ttctgatccc gaatcaatta tagggggcta 840
 tgcagaattc ctgtacctaa ttggcttggt ggatgagaag caaaaaaagt acttccagaa 900

74,

```

gcagtgccat gaatgcatag aacacatcag gaagcagaac tggtttgagg cctttgaaat 960
actggataaa ctactagatg gcgacttaac aagtgatcct tcttacttcc agaatgttac 1020
aggatgtagt aattactata actttttgcg gtgcacggaa cctgaggatc agctttacta 1080
tgtgaaattt ttgtcactcc cagaggtgag acaagccatc cacgtgggga atcagacttt 1140
taatgatgga actatagttg aaaagtactt gcgagaagat acagtacagt cagttaagcc 1200
atggttaact gaaatcatga ataattataa ggttctgatc tacaatggcc aactggacat 1260
catcgtggca gctgccctga cagagcgctc cttgatgggc atggactgga aaggatccca 1320
ggaatacaag aaggcagaaa aaaaagtttg gaagatcttt aaatctgaca gtgaagtggc 1380
tggttacatc cggcaagcgg gtgacttcca tcaggtaatt attcgagggtg gaggacatat 1440
tttaccctat gaccagcctc tgagagcttt tgacatgatt aatcgattca tttatggaaa 1500
aggatgggat ctttatgttg gataaactac cttcccaaaa gagaacatca gaggttttca 1560
ttgctgaaaa gaaaatcgta aaaacagaaa atgtcatagg aataaaaaaa ttatcttttc 1620
atatctgcaa gatttttttc atcaataaaa attatccttg raaaaaaaaa aaaaaaaaaa 1680
aaaa                                             1684

```

<210> 110

<211> 476

<212> PRT

<213> Homo sapiens

<400> 110

```

Met Val Gly Ala Met Trp Lys Val Ile Val Ser Leu Val Leu Leu Met
  1              5              10              15

Pro Gly Pro Cys Asp Gly Leu Phe His Ser Leu Tyr Arg Ser Val Ser
      20              25              30

Met Pro Pro Lys Gly Asp Ser Gly Gln Pro Leu Phe Leu Thr Pro Tyr
  35              40              45

Ile Glu Ala Gly Lys Ile Gln Lys Gly Arg Glu Leu Ser Leu Val Gly
  50              55              60

Pro Phe Pro Gly Leu Asn Met Lys Ser Tyr Ala Gly Phe Leu Thr Val
  65              70              75              80

Asn Lys Thr Tyr Asn Ser Asn Leu Phe Phe Trp Phe Phe Pro Ala Gln
      85              90              95

Ile Gln Pro Glu Asp Ala Pro Val Val Leu Trp Leu Gln Gly Gly Pro
  100              105              110

Gly Gly Ser Ser Met Phe Gly Leu Phe Val Glu His Gly Pro Tyr Val
  115              120              125

Val Thr Ser Asn Met Thr Leu Arg Asp Arg Asp Phe Pro Trp Thr Thr
  130              135              140

Thr Leu Ser Met Leu Tyr Ile Asp Asn Pro Val Gly Thr Gly Phe Ser
  145              150              155              160

Phe Thr Asp Asp Thr His Gly Tyr Ala Val Asn Glu Asp Asp Val Ala
      165              170              175

Arg Asp Leu Tyr Ser Ala Leu Ile Gln Phe Phe Gln Ile Phe Pro Glu
      180              185              190

Tyr Lys Asn Asn Asp Phe Tyr Val Thr Gly Glu Ser Tyr Ala Gly Lys
      195              200              205

Tyr Val Pro Ala Ile Ala His Leu Ile His Ser Leu Asn Pro Val Arg
      210              215              220

```

75.

Glu Val Lys Ile Asn Leu Asn Gly Ile Ala Ile Gly Asp Gly Tyr Ser
 225 230 235 240
 Asp Pro Glu Ser Ile Ile Gly Gly Tyr Ala Glu Phe Leu Tyr Leu Ile
 245 250 255
 Gly Leu Leu Asp Glu Lys Gln Lys Lys Tyr Phe Gln Lys Gln Cys His
 260 265 270
 Glu Cys Ile Glu His Ile Arg Lys Gln Asn Trp Phe Glu Ala Phe Glu
 275 280 285
 Ile Leu Asp Lys Leu Leu Asp Gly Asp Leu Thr Ser Asp Pro Ser Tyr
 290 295 300
 Phe Gln Asn Val Thr Gly Cys Ser Asn Tyr Tyr Asn Phe Leu Arg Cys
 305 310 315 320
 Thr Glu Pro Glu Asp Gln Leu Tyr Tyr Val Lys Phe Leu Ser Leu Pro
 325 330 335
 Glu Val Arg Gln Ala Ile His Val Gly Asn Gln Thr Phe Asn Asp Gly
 340 345 350
 Thr Ile Val Glu Lys Tyr Leu Arg Glu Asp Thr Val Gln Ser Val Lys
 355 360 365
 Pro Trp Leu Thr Glu Ile Met Asn Asn Tyr Lys Val Leu Ile Tyr Asn
 370 375 380
 Gly Gln Leu Asp Ile Ile Val Ala Ala Ala Leu Thr Glu Arg Ser Leu
 385 390 395 400
 Met Gly Met Asp Trp Lys Gly Ser Gln Glu Tyr Lys Lys Ala Glu Lys
 405 410 415
 Lys Val Trp Lys Ile Phe Lys Ser Asp Ser Glu Val Ala Gly Tyr Ile
 420 425 430
 Arg Gln Ala Gly Asp Phe His Gln Val Ile Ile Arg Gly Gly Gly His
 435 440 445
 Ile Leu Pro Tyr Asp Gln Pro Leu Arg Ala Phe Asp Met Ile Asn Arg
 450 455 460
 Phe Ile Tyr Gly Lys Gly Trp Asp Pro Tyr Val Gly
 465 470 475

<210> 111

<211> 750

<212> DNA

<213> Homo sapiens

<400> 111

acgatgtggt gaccggctgc cgtttgagga ctttggtcac ccagactaga caccttctgt 60
 gctcatgttt ggaaagctga aagggaagga cagctgtgcc ctctgtggag ctcatgtgtc 120
 cctggcgctg tgctagcttt cctttacagc tgtttacaga caaggcaggc ctgaggcaga 180
 tggccactgc tcttgatgat tttgctcaga ggaatatgaa cattttattt ttgaaaagg 240
 atgatgtggt ttttgccagg tgtttataat taatccttta atattatggt tattaacctc 300
 ttaaaccatga atgaattcct gattgtttta acacagtacc taagactaat gctttctgtg 360

76

```

gacaccactg agctctgcct caactccacc ctctgcgacc ggaggactat gccccctagta 420
actgctgtcg gtgtggacgc tgtgctgggt ctgttttcta aaggagcaga aggacaggtc 480
tctgagacag gatcgttgtc cctacaggag gaacagtggc cttgcttctt agacgggtctt 540
cactgtgtgt tttaaaacaa caacaacaac aacaacaaca taaaactctt ttgacctgta 600
acttaaagat cataaacttc aggcaataat attttctgtg taagctttta aaattatttt 660
tggggatcat agcttggttt attttgtgct ataaaattaa cagtattaaa tgacttatat 720
tcttagaata aaaaaaaaaa aaaaaaaaaa

```

<210> 112

<211> 89

<212> PRT

<213> Homo sapiens

<400> 112

```

Met Val Ile Asn Leu Leu Asn Met Asn Glu Phe Leu Ile Val Leu Thr
  1             5             10             15

```

```

Gln Tyr Leu Arg Leu Met Leu Ser Val Asp Thr Thr Glu Leu Cys Leu
      20             25             30

```

```

Asn Ser Thr Leu Cys Asp Arg Arg Thr Met Pro Leu Val Thr Ala Val
      35             40             45

```

```

Gly Val Asp Ala Val Leu Val Leu Phe Ser Lys Gly Ala Glu Gly Gln
      50             55             60

```

```

Val Ser Glu Thr Gly Ser Leu Ser Leu Gln Glu Glu Gln Trp Pro Cys
      65             70             75             80

```

```

Phe Leu Asp Gly Leu His Cys Val Phe
      85

```

<210> 113

<211> 2156

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (1353)

<400> 113

```

aagtgatcta cctgcctggg cctcccaagg tgctggggatt acgggtgtga gccaccgcgc 60
ccagcctatt cttttttggt tgtgataatg gtcacctaata tggacatgag gtagtgcat 120
gtgggtttga tttgcatgtc cctgataaat aatgatgttg accatctact catgtgcttg 180
ttggctatgt gcatggcgtg tttggagaaa cgtctgttca agggctttgc cttttttttt 240
tgagacagar tcttactccg ttgccccarg ctggagtkcg gtggtagagg gtgcactgca 300
acatccgcct tccaggttca agcgattctt gtgcctcagc ctcccaaaga gctgggatta 360
caaaagtgca gtttgcccat ttttaatcga ttttgttctt gagttggagt tttttgtata 420
ttcaggctgt taacccttta tgagatagat ggtttgcaca tagtctcttc cattctatag 480
gatatcattt ctgttaatat attcctttgc tgtgcagaaa ctttttagtt tgaggtcatc 540
ccatttgtct atttttactt tcgttgccct tgctgttggt gtcattgtta agaatcatt 600
gccaagacca atgtcgtgaa gtctttccct ttgttttctt ctaagggttt tacagtttca 660
agtctgtgtt tgggtcttgc atcggttttg agttagtttt tgtgtatgat gtaaggtaag 720
ggtctatctt tatttgcaag tggatatcca gtcttcccag cgctgcatat tgaagagacc 780
atcctttccc cattgtgcaa gaagttcttg tcacccttgt tgaaggatcat ctgtctgtca 840
ttgtcatttc tggccctgtg ctgtcctgtc ctgtcctgtt ctgttctgtt 900
ggctgttagg tctgtcttta tgtcagcacc atactggctg ttggactttt taattctttt 960
cttgacagtg gtaatttatt tgcttctttt tcttattagt ccttttgccct actttaata 1020
attaattttg ttaattttta gttttctgtt attttagttc attaatttca ttgcttccct 1080
tatttattta tttatttttt ttgagatgga gtcttgctct gtcactcagg ctggagtgtca 1140

```



```

gtggcacgat ctcagctcac tgcaacctcc acctcccagg ttcaagtgat tctcctgtct 1200
cagtctcctg agtagctggg attacaggca cttgccacca tgcccggcta attttttgta 1260
tttttttagta gagacggggg ttcgctgtgt tgcccgggct ggtttcaaac ttctgagctc 1320
aggcaatcca cctgcctcgg cctcccaaag tgntaggatt acaggtgtga gccaccacgc 1380
ctgacccatt gctgccttaa atacacaaag cgcttgagtt aataaagtta cctgaaggat 1440
tgaactttta ttttgcact cgtttgagg tgaggggact acttgttttt gctcattttt 1500
agtttttttt ttttgcact tgggggtcaaa tggcatgtca tatgtgctgt tacctgaaat 1560
atattgaggg tttctttgtt ctatcatacm tggctatttt cataactgtc ccacagacac 1620
tggaagaagc tgatgactcc atggggtaca gaatttagaa catccttgtc agattgagtc 1680
tatggtgatg tgtcttaagt cgtcccttag tctttttttt cctaatacag ctgtcaaatt 1740
tcagagaacc atgttaaaat cccctattat tgtggttttg aaggttgttt ccagtgtttt 1800
tccttcattt aattcttcct ctgtcgctgt gcgcctgcag attccaggct gcttgacatg 1860
ggttcctttc catatgggag tgagccagca gacagcccta cagatcgtac acacgttttc 1920
caaaactaac aatggaacag gcggcaaacc tatgccaata tactagaaat tgcagattaa 1980
atagatgaaa tattctaaac tggagtttac ataatgaaca taagagtaat cagagaatct 2040
gactcatttt agatgtgtgt gtgtgtgtat atatatgtgt gtgtgtgtga aaaacattga 2100
ctataataaa aataatctcg agttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2156

```

<210> 114

<211> 94

<212> PRT

<213> Homo sapiens

<400> 114

```

Met Val Met Cys Leu Lys Ser Ser Leu Ser Leu Phe Phe Pro Asn Gln
  1             5             10             15

```

```

Ser Val Lys Phe Gln Arg Thr Met Leu Lys Ser Pro Ile Ile Val Val
      20             25             30

```

```

Leu Lys Val Val Ser Ser Val Phe Pro Ser Phe Asn Ser Ser Ser Val
      35             40             45

```

```

Ala Val Arg Leu Gln Ile Pro Gly Cys Leu Thr Trp Val Pro Phe His
      50             55             60

```

```

Met Gly Val Ser Gln Gln Thr Ala Leu Gln Ile Val His Thr Phe Ser
      65             70             75             80

```

```

Lys Thr Asn Asn Gly Thr Gly Gly Lys Pro Met Pro Ile Tyr
      85             90

```

<210> 115

<211> 3941

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (2895)

<400> 115

```

cagacacaga gatcagaatt ccaggaaatg atcttccagt gcgttctggg tcagttatgg 60
tgactgtaaa taccgtcatc acagctggcc ctcaaaataa cgcaataata acatatttac 120
ataatgacat attatgactg taagtgcagt cagcccatc tggggctgag gcgggggccc 180
tgctgtgcac tctcccccca gctatccac cgggccaggg gtgggcctca gggttgtgct 240
gggagccgca gggcctgaag gggcctcggc tgtacgggga tgagactcgc aggggagagg 300
gcagaggccg gtgacctggc gaggacttgc ccaggagatt ggagctcctt gcttctgcgc 360
cacgcggatg cccacgctg gtctcagctg ggttggtggc tctgagtggg catctcgttg 420
ctgccatatt ttcttgcttc attgaatttc actgtgctcc agcctgggca acacagccgg 480
actctgtttc aaaaaaaaaa attttttttt tccaagatag gatggtagag aaaatacctc 540

```

ctgccatgtc	ctgctatgaa	tacagctttg	tatttctctc	tctagttttg	tcagttttgg	600
cttttcagat	tttgaagcgt	gtttgtgggc	tgaatcttgc	ccttatcacc	catttctagg	660
atgctttttg	ctccactcat	tctttgtctt	gcttcacttg	actttgaact	gtatactttt	720
ttccatcggt	ttactttcag	tatcttcata	catgtatgtt	tttgtaagcc	tctcttagaa	780
cagtgtatgg	ttttgtaaaa	attcagcctg	tagcttttac	ctgcctcctt	catgaccttt	840
ataatcccc	tggttctcag	cctgccactc	acaggacttt	tccctgtgct	gcgttccmag	900
tgccccctcc	ccgccccac	ctgtgctttt	tgttgatta	gtagaattgc	ttttgtcatt	960
ccattgtttt	catatatatt	tttgggacat	tttacttttt	tctgttaacg	cttaccctag	1020
aaattagaaa	tgacaccacg	tattcttagc	gaagtccagt	tttcagcatt	ttgtccttat	1080
tggacaatag	caaggatatt	agaacgtgtt	ggttccgctg	gcttccgtct	tgagttatgt	1140
gctgctattg	tcggatattt	tgtcttagat	gtacgtactt	tcctgttcat	tgtggtagtg	1200
gtaatttgcg	ttactttgaa	ttttccacgt	ttttactttc	tttgtctctc	atcacttact	1260
gcttttggga	cccccccat	cggggttcac	attccctctc	cctagagcac	actcccttgg	1320
atttctcga	gtggggtctg	ctgcggtgaa	gctttcccat	tttatgtgca	gattattttc	1380
agagggtata	tagaattcag	gcagctgttt	cggtgtagca	cattaaaaat	attttcccac	1440
ttctccttg	cttctgttgt	tgtttttgag	tgttacctct	gagtctgcct	gtgctccctg	1500
gaaacggccc	gggtttccca	ccccctgccc	aggtttgctc	cttccgtggg	ttttctgtca	1560
ttatcacgct	cacgtgtttc	cctcggtcac	cccctctgca	attttcacac	gtcttttccc	1620
tctctctttg	cttcattacc	tttggcccg	ctgccagctg	ctgattctct	ctgaagatgt	1680
ctctaaatga	cttttaactg	tgattttgtg	aattcttatt	gtggagtttt	gcgtcttttc	1740
agggtgtagg	tttttgtctc	gcgtgtttcc	acgtctgtct	gtagcgcttt	ccgcttcgcc	1800
gttccctgag	gcccctcctt	ccgtgcccgg	tgttcactct	cttgaatgct	cttttctctg	1860
ctgtttggct	gggtgtgtct	gagttgcaac	ctgagcgggt	ttctttgtct	tcttacttgt	1920
ctgggtattg	gttctctcgg	gacgttgctg	ttgaggggtc	gcacctcaga	gcaagccgag	1980
gtctgggcta	agcctgtgct	ttggcaggca	ggaccttagt	ttgccttttc	tgggcacctg	2040
aggagagggt	agcagcagcc	tgggtctctc	ttgactcacg	gtcagcagtg	agggttctct	2100
ggcctgttgg	gtggctggag	cttggctgca	ttccccactg	agagaggagg	gtgcgcacct	2160
tctcctccct	ggagtggcct	tccaggtgcc	ctctcagagc	tgctcatcag	ggctgtgcct	2220
ttgtcagcac	caagcctcag	cccttgtccc	tgctgccact	gaaggctcaa	aacaacactg	2280
cacagccttg	tgtgtcctct	gtgtgtcggc	agtttccccc	ggctctgcag	cagcccaggc	2340
caggtagcct	ctggaggagg	tgggtggagg	gcacgggcat	cctggccgcc	gctgtgttgg	2400
ggacagaccc	tggggcctgg	aaagggaggt	gaggcccgct	gggggctgct	gcaccacagg	2460
caagagagca	agagacagca	gaggccggcc	agggtgtggc	acagccgcta	gggaccaggc	2520
cggcctgttg	aggtattggg	atggggacca	gcggaacttg	tggcagaggg	gcctcagggc	2580
tgcaggcttc	ttggactgag	ccactgggag	gacggagttg	accttctttg	agacagaaaa	2640
agtgtgcac	ccggggctgc	ctgtgaaagc	tcactctctaa	agtgtgtgtt	gttcttccag	2700
ccaccccttt	gctgtgaagt	tgcttgctgt	ctgtaagaaa	gaaatcaaga	attcaaaaaga	2760
tatccagaag	ctcctgtcag	gcactgcag	gtgagtttca	agtgtacttg	gccttagacg	2820
gaattggcag	gcgcagcctc	ccttggctga	gggcaggagt	ccacggctcc	aggcgggaga	2880
ggagcagtta	gtgtactcct	tcaagctaac	ctaagatcgt	gcattccaat	gttcaaagca	2940
gtcgcaatgg	gaggtgaggg	agcccagggt	ctggtggagg	gagttcccgc	gggaacaggc	3000
gagctctgcc	tctgtctgcc	tcgcgtctct	ccctggcggg	aggggaggct	ccggaaggga	3060
gctgcgtgg	caggggctgc	ctccccgatt	ctcctgtgtg	ccctgggggt	cgctgttgag	3120
tgccttgctc	tgccgcgctc	agggtggacac	tgggcagggt	cgccagccag	cgataggcac	3180
cttggctgct	ctgtggctcc	ttgaggtggg	ggctcctcat	gcagggcgag	cggccctgca	3240
ggagatccct	tgtgagcgct	cctcacttcc	cacagtgact	ttccaagtgc	gacactcgcg	3300
tgtgtaggca	cagtgcagat	gtgcgcacac	acacacctcc	ggcttggggc	cccaggcccg	3360
cactgtgctc	acggatctgc	tctgcccagg	ttctgcggga	tgggtgcagt	ccccggcgaa	3420
cgtgaggagg	caggccctcc	tgcagctgtg	tctgtctctc	tgccaccgtt	tcagctgat	3480
ccggaagacc	acggccagcc	agggtgtacga	gacattgtct	acctacagtg	acktcgtggg	3540
cgcggatgtg	ctggacgagg	tgggtactgt	gctcagtgac	actgsgtgga	cgcagagctt	3600
gcagtgggtga	gagagcagcg	caaccgtctg	tgtgaccttc	tgggcgtacc	caggccccag	3660
ytggtgcccc	agcctgggtg	ctgctgaagc	cagtcctgga	gcccatacct	cacccctgcc	3720
tgggtaggat	gtcttgttcc	tgaggagggc	cgggtgtggaa	agcctcgcac	agtggtgctt	3780
ccagctgttg	aagggtagcg	ctggcccttg	gaggtgtggca	ctagctgaca	gcttttctct	3840
tctgcacctg	cgctctgggtg	acttgggggtg	gacgcctctg	ccttcacttg	aacacaaatg	3900
tgcttcctat	aaaatcatgt	accaagaaaa	aaaaaaaaaa	a		3941

<210> 116

<211> 70

<212> PRT

<213> Homo sapiens

<400> 116

Met Cys Cys Tyr Cys Arg Ile Phe Cys Leu Arg Cys Thr Tyr Phe Pro
 1 5 10 15

Val His Cys Gly Met Cys Asn Leu Arg Tyr Phe Glu Phe Ser Thr Phe
 20 25 30

Leu Leu Ser Leu Ser Leu Ile Thr Tyr Cys Phe Trp Asp Pro Pro His
 35 40 45

Arg Gly Ser His Ser Leu Ser Leu Glu His Thr Pro Leu Asp Phe Leu
 50 55 60

Glu Trp Gly Leu Leu Arg
 65 70

<210> 117

<211> 1779

<212> DNA

<213> Homo sapiens

<400> 117

ccaagttcca ggtctagaat tcaaattact aatttactgc ttctctctct ctaagcctca 60
 gctccctgat ctagaccatg agatttacag taggagagta ccatgtttat ccccaaatac 120
 ttaacagcta gggttttccc agactgaata ataataataa cttttttaaa attcagaagg 180
 tatcttcaag ttcttggcct gcttcttgta cattcaatat caaagaagag aaaacacact 240
 atctgagagt acttcccatg cacctaataa gtgccaaagc cacctgggtgc tagagccctt 300
 caccaaaatg agcatcagcc ttgctttcag aaagcaggga ccacatatat atgatttaaa 360
 aaaaatctgc gatcaacttt tctctaaaaa acccaaatat gctggggtac agaaagatca 420
 atgcaaaagc aaaacatcct gtgcctgtcc tagaggtccc cagaggcagg atgccccgac 480
 tcagaaagaa actcctaagc tggcctggcc aaagggagga agaaccagg gtgggtgtcg 540
 taactcatct aaaaataacg atgtcatcag gcagatgtgc cattgtgctg gggctgggtg 600
 ggtgtggcag gccaccttg ggtatgcaaa gctctgacag tgtttcactt gctaccctcg 660
 gtctgcttac cacactccca gttctgtgta ccttacggga aggctcatgc tgggttgact 720
 cacggcaggg ctagagcact gtgagggatg tgtgaggaca agggtcacac cccaggggtg 780
 catttccaag ccccatgcct ctggccatat cccatagggg ctctaggcct ctgttttccc 840
 atctttaaaa taattggggg caatacctcc tatgatcttt ctgagaatta atagagattt 900
 catggcaatt gcttagccct gccagcaga gatagcaaat aatcaatcag ctccctttct 960
 cctctgtctc ttgggtgttt tctactctg gaacccaga gcaagagagg accctgaaac 1020
 atggcctaca tccaattctt tcattttgca tttgaggaaa tgcaggcaca tggctgcggg 1080
 tctactctta ccaaccata tcaggtcatt gctctaacga ggcttaagga gcaataaccc 1140
 gcctttcacg tggttcttac ggatacccag aaagatgact cagcttctcc agatttctga 1200
 gaagactaag cataagtcag agagagtata gacaaaggaa aagggggcat aactgcaagg 1260
 accccctcaa atgtgtgctg tggcagcatt ggtgggacag gggctgaaag agcaaaacag 1320
 tagggatcac atcttgga gtactcggga aggagtccaa aaacgaccat ggatcctgga 1380
 gctacagggt gcaaccaaac tacaatcatt ccatttggcc tcaggatgtg gaagcaccac 1440
 aaatgtgttt gcctcaaaaa gcaaagagga tgaggcccg catggtagct caggcctgta 1500
 atcccagcac tttgggaggg cgaggtgggc ggatcacttg agtccaggag ttcgagatca 1560
 gcctgggcaa ttagcaaca ccgcacctct acaaaaaata aaagaattaa ctgggctgtg 1620
 tggcgcatgc ctgtagtccc agctactctg gaggctgagg tgggaggatc ccttgagccc 1680
 aggagatgga ggttgcatg agctgagatg gcaccactgc actccagtct ggggtgacaga 1740
 gcaagacca gactcaaaaa aaaaaaaaaa aaaaaaaaaa 1779

<210> 118

<211> 109

<212> PRT

<213> Homo sapiens

<400> 118

80

Met Ser Ile Ser Leu Ala Phe Arg Lys Gln Gly Pro His Ile Tyr Asp
 1 5 10 15

Leu Lys Lys Ile Cys Asp Gln Leu Phe Ser Lys Lys Pro Lys Tyr Ala
 20 25 30

Gly Val Gln Lys Asp Gln Cys Lys Ser Lys Thr Ser Cys Ala Cys Pro
 35 40 45

Arg Gly Pro Gln Arg Gln Asp Ala Pro Thr Gln Lys Glu Thr Pro Lys
 50 55 60

Leu Ala Trp Pro Lys Gly Gly Arg Thr Gln Gly Gly Cys Arg Asn Ser
 65 70 75 80

Ser Lys Asn Asn Asp Val Ile Arg Gln Met Cys His Cys Ala Gly Ala
 85 90 95

Gly Trp Val Trp Gln Ala His Leu Gly Tyr Ala Lys Leu
 100 105

<210> 119
 <211> 1170
 <212> DNA
 <213> Homo sapiens

<400> 119
 agccgcgcgg ctgcgggggc gcaaataggg tcaactgggccc gcttggcggt gtcgttgccg 60
 taccaggtcc gcgtaggggg ttccgggggt ctgggcaggc acaatggcgt ctcgagcagg 120
 cccgcgagcg gccggcaccg acggcagcga ctttcagcac cgggagcgcg tcgccatgca 180
 ctaccagatg agtgtgaccc tcaagtatga aatcaagaag ctgatctacg tacatctggt 240
 catatggctg ctgctggttg ctaagatgag cgtgggacac ctgaggctct tgtcacatga 300
 tcagggtggcc atgccctatc agtgggaata cccgtatttg ctgagcattt tgccctctct 360
 cttgggcctt ctctcctttc ccgcacaaca cattagctac ctggtgctct ccatgatcag 420
 catgggactc ttttccatcg ctccactcat ttatggcagc atggagatgt tccctgctgc 480
 acagcagctc taccgccatg gcaaggccta ccgtttcttc tttggttttt ctgccgtttc 540
 catcatgtac ctggtgttgg tgttggcagt gcaagtgcag gcctggcagt tgtactacag 600
 caagaagctc ctgactcctt ggttcaccag cacacaggag aagaagcata aatgaagcct 660
 ctttgggggtg aagcctggac atcccatcga atgaaaggac actagtacag cggttccaaa 720
 atcccttctg gtgattttag cagctgtgat gttggtacct ggtgcagacc aggccaaagt 780
 tctggaaagc tccttttggc atctgctgag gtggcaaaac tataatttat tccctggttg 840
 ctagaactgg gtgaccgaca gctatgaaac aaatttcagc tgtttgaagt tgaactttga 900
 ggtttttctt taagaatgag cttcgtcctt gcctctactc ggctattctc cccatttcca 960
 tccattaccc cttagccatt gagactaaag gaaataggga ataaatcaaa ttacttcatc 1020
 tctaggtcac gggtcaggaa acatttgggc agctgctccc ttggcagctg tggctctctc 1080
 tgcaaagcat ttttaattaaa aacctcaata aagatggccc tgcccacaaa aaaaaaaaaa 1140
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1170

<210> 120
 <211> 183
 <212> PRT
 <213> Homo sapiens

<400> 120
 Met Ala Ser Arg Ala Gly Pro Arg Ala Ala Gly Thr Asp Gly Ser Asp
 1 5 10 15

Phe Gln His Arg Glu Arg Val Ala Met His Tyr Gln Met Ser Val Thr
 20 25 30

81.

Leu Lys Tyr Glu Ile Lys Lys Leu Ile Tyr Val His Leu Val Ile Trp
 35 40 45
 Leu Leu Leu Val Ala Lys Met Ser Val Gly His Leu Arg Leu Leu Ser
 50 55 60
 His Asp Gln Val Ala Met Pro Tyr Gln Trp Glu Tyr Pro Tyr Leu Leu
 65 70 75 80
 Ser Ile Leu Pro Ser Leu Leu Gly Leu Leu Ser Phe Pro Arg Asn Asn
 85 90 95
 Ile Ser Tyr Leu Val Leu Ser Met Ile Ser Met Gly Leu Phe Ser Ile
 100 105 110
 Ala Pro Leu Ile Tyr Gly Ser Met Glu Met Phe Pro Ala Ala Gln Gln
 115 120 125
 Leu Tyr Arg His Gly Lys Ala Tyr Arg Phe Leu Phe Gly Phe Ser Ala
 130 135 140
 Val Ser Ile Met Tyr Leu Val Leu Val Leu Ala Val Gln Val His Ala
 145 150 155 160
 Trp Gln Leu Tyr Tyr Ser Lys Lys Leu Leu Asp Ser Trp Phe Thr Ser
 165 170 175
 Thr Gln Glu Lys Lys His Lys
 180

<210> 121

<211> 1127

<212> DNA

<213> Homo sapiens

<400> 121

```

ctcgccgcag aagtatctcc gaatggagcc atcccccttc ggcgacgtct cctcccgct 60
caccacagaa caaattctgt acaacataaa acaagagtat aaacgaatgc agaagagaag 120
acatttagaa acgagtttcc aacagacaga tccgtgttgt acttctgatg cacagccaca 180
tgcatttctc ctacgtggac cagcttcacc agggacttca tctgcagcat cctcaccatt 240
aaaaaaagaa cagcccttat ttactctacg gcagggttggg atgatctgtg aacgtttgtt 300
gaaagaacgt gaagagaaag ttcgagaaga atatgaagaa atattgaaca caaaacttgc 360
agaacaatat gatgcgtttg tgaagtttac gcatgatcaa ataatgacac gatattgaga 420
acagcctgct agctatgttt catgaatcac gtatcctgca tttgtgggct gccttggtcc 480
ttgttgagtt gttgcaagag gtcccaatta tgacatgcag caatgccaat accccttctg 540
tgaatacagg ttatttcaag ctttcgtcag tggcaaccac tcttaggcag cagcaactgg 600
ttttggaaat ttccctgatg tcagtaccac ctggatgtgg acctttgcta cctgtattaa 660
taccagtggc ctcatcttgc tgtatcatta caatttggct tcttatatta atggttgaaa 720
aggattaaag ctggtattct agaacatgcc ctactcggg tgtgtaaaata aaactgtaga 780
atgacacttc agatgaagtt agtgtgattt taattgtgca ctacaaccga gctgtacca 840
gttactaatt ttagaatgta atcccaggac aatattaagc aaatagcctg cagtgcctcc 900
tgtgaaatag tgaaggagga gggcatttct gtattccagg acttcttggg gtttcagaat 960
gggtttgtat gatttttttt tttttgtagt tttatttatt ctatcagtc ttttaacaaa 1020
tggtttattgc tgcatttttt tttttccagt gtatcattgt tttactgcc ttgtagtact 1080
ggaatttagt tggaagaata aaacatttac ttctaataaa aaaaaaa 1127

```

<210> 122

<211> 140

<212> PRT

<213> Homo sapiens

82

<400> 122

Met Glu Pro Ser Pro Phe Gly Asp Val Ser Ser Arg Leu Thr Thr Glu
 1 5 10 15

Gln Ile Leu Tyr Asn Ile Lys Gln Glu Tyr Lys Arg Met Gln Lys Arg
 20 25 30

Arg His Leu Glu Thr Ser Phe Gln Gln Thr Asp Pro Cys Cys Thr Ser
 35 40 45

Asp Ala Gln Pro His Ala Phe Leu Leu Ser Gly Pro Ala Ser Pro Gly
 50 55 60

Thr Ser Ser Ala Ala Ser Ser Pro Leu Lys Lys Glu Gln Pro Leu Phe
 65 70 75 80

Thr Leu Arg Gln Val Gly Met Ile Cys Glu Arg Leu Leu Lys Glu Arg
 85 90 95

Glu Glu Lys Val Arg Glu Glu Tyr Glu Glu Ile Leu Asn Thr Lys Leu
 100 105 110

Ala Glu Gln Tyr Asp Ala Phe Val Lys Phe Thr His Asp Gln Ile Met
 115 120 125

Arg Arg Tyr Gly Glu Gln Pro Ala Ser Tyr Val Ser
 130 135 140

<210> 123

<211> 806

<212> DNA

<213> Homo sapiens

<400> 123

gtgtatcttc agaggcagca ggggccagtg tgccacatct tgccccagtc ctgaaaggat 60
 agatgggtatt tggcctgtga cccttggttg aggagccatg gtccggctct gccaggccct 120
 gctgctgtta gtggccactg tggcccttgc atccagaaga ttccaagcct gggggtcaac 180
 aaargtggtg aggacattcc aagatatccc tcaaaactac gtctatgtkc arcakgcact 240
 ctggttcgcc atagaaggag tataacaagg ccagctttag tataacaagt tcagctttag 300
 ggtgctgaag gttctgaaga gccasgarca ggtgacagat agtttggagt actatattga 360
 ggtcaaaatt gccgaacar tttgcaagaa aatttcagaa gatgaaaact gtgcatttca 420
 agaggatccc aaaatgcaaa aggtggtttt ttgtaytttt attggttgc ataaaccatg 480
 gaaatttgaa ctcaccatgy tgraaacaat gcaaagatat gtagttatct tctmgtgtgt 540
 tctgccacac tcatttccat tttaaagaag aagcaaagac ayttagcaaga aytagaacaa 600
 cacagttaac ccattaactt catttggttg gcctttttgc atttttgtgt gttcttcatg 660
 ggctgatggt gaaaatccat gatgtgtttt gacagcattg catagcctat tcttgctgga 720
 tacttcccct actagctggg ataatctgyt gcaataaatg gaagtgggtt cttacacstc 780
 aaaaaaaaaa aaaaaaaaaa aaaaaa 806

<210> 124

<211> 55

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (46)

<400> 124

Met Val Arg Leu Cys Gln Ala Leu Leu Leu Leu Val Ala Thr Val Ala
 1 5 10 15

83.

Leu Ala Ser Arg Arg Phe Gln Ala Trp Gly Ser Thr Lys Val Val Arg
 20 25 30

Thr Phe Gln Asp Ile Pro Gln Asn Tyr Val Tyr Val Gln Xaa Ala Leu
 35 40 45

Trp Phe Ala Ile Glu Gly Val
 50 55

<210> 125

<211> 1783

<212> DNA

<213> Homo sapiens

<400> 125

```

tccccacccc ccttatgtct cagccgaacc taccctaata cagcccacgc cacaatgggtg 60
ggacagggttc cccagtcacct atgtgggtctt attttttacc ttgcactccc tgtagaccat 120
caattctaca ccctaattac aaaatcatat ccacctctgc ctggcagaag gtgttatgct 180
tttctggctc gcctaccatc cacacatccc tacacctcac caccggatcc tcttttcttt 240
ccttccatcc aattcctggc ttccccgctg ccaactctgc tctctatgtc tccagtttaa 300
aggtgcccc tggaaaaaat gtaacaattc cctcacctgt gactgggtacc tgacagccac 360
cacaccgggg cagcaatggc taacgggtga caaagacaat ttctttctct ctccaaaacc 420
aaacagcctt catcaactcc ctacccaaga ctccctatca ggcccttaca ggtgccgctc 480
tggctggcag ttacccmatt tgggaaaacg aaaataccct atcatggcta cctaccttca 540
cctacaactt ctgcctgtcc acccccagtc tcttcttttt gtgtgataca aactgatata 600
tttgcttacc agccaactgg tcaggaactt gcacctgggt ctttcagggt ccaaccatca 660
acatcttacc ccctaaccaa actattctaa tttctgtaga agcctctatc tctcttcac 720
ccataagaaa taaatgggct ctacatctca tcacctgct aacaggatta ggcatcactg 780
ctgcacttgg cactggaata gcaggcataa ccacctcaat cacctcatac caaacactat 840
tcacaaccct ttctaacacc gtagaagata tgcacacttc cattaccagt ctccaacgac 900
aattagactt cctcgtggga gtcactcttc aaaactggag agtctgggac ctccaaacca 960
ctgagaaagg gggtagctgc atatacctcc aggaagaatg ctgtttctgt gttaatgaat 1020
ctggcattgt tcatatcgca gttcgtaggc ttcatgacag ggctgcagag ctttgacatc 1080
aagtcgctga ctccctgggt caaggatcat cccttctaag atggataccc tgggttgccc 1140
ccttcttagg acccctgatc ttctcttccc tggtactaat gattgggcca tgcataatta 1200
accttgatc ccgcttcatt tcccaaaggc tgaattgttt tatccaggca agcatgcaa 1260
aacacattga taatatattt cacctttggc acgtctaata ccagagccta cgaggaaacc 1320
attcggaagc tccagaaccc aggcctaat cacaacgccc ctatccagca ggaagcagcc 1380
agatgatyaa mgacgccctt tttctttttt atactaaagt aagaaataag aatgttagcc 1440
caaactgcay tattttgag acccctacca ttttacaac tggtcagagt ggaaaattcc 1500
accagggcct gagctgtgag aaacatcctg tcaggcaggt cccaggccta acccctggst 1560
gcactaaatt ctttcattat cagcagccaa acacaccgcc cccaccccat tttcacaaca 1620
atcccagacc tctcctgccc gggactgtaa ctggtccagc ctgtaagcgg gaagggggct 1680
ctggcactag stggtacccc ctctccgag gtctttctcc caataaatct gtgttgccct 1740
tgraaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1783

```

<210> 126

<211> 136

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (108)

<400> 126

Met Leu Phe Trp Leu Ala Tyr His Pro His Ile Pro Thr Pro His His
 1 5 10 15

His Pro Gln Ser Leu Leu Phe Val
130 135

```
<210> 127
<211> 3149
<212> DNA
<213> Homo sapiens
```

<400>	127						
ggtctttaac	gtgagcccg	tgcaggtgtg	cggcccagtc	cgagacagca	gatgaggaga	60	
ctgtccttcc	tgtttcgcag	atgaggaaac	tgaggcttag	agaagtttgg	caaattggct	120	
aagttcctac	agctaccaca	gcagaaaagt	ctgggcagta	gagagctgcc	ccctccagaa	180	
gatgatcgta	tgcactccag	tgcccccaga	tcctcgtgga	aggaacggat	ccttaaagca	240	
aaggtgggta	cggtgtctca	ggaggcagar	tgggatacaa	tcgagccctt	gcttagaagt	300	
gaattagaag	attttccagt	acttggaaat	gactgtgagt	gggtaaattt	ggaaaggcaa	360	
gcctgccctc	tgtcacttct	acaaatggcc	tccccaagtg	gcctgtgtgt	cttgggtcgc	420	
ctgcccagc	taatctgtgg	aggaaaaaca	ctaccaagaa	cgttattgga	tattttggca	480	
gatggcacca	ttttgaaagt	tggagtggga	tgctcagaag	atgccagcaa	gcttctgcag	540	
gattatggcc	tcgttggttag	ggggtgcctg	gacctccgat	acctagccat	gcggcagaga	600	
aacaatttgc	tctgtaatgg	gcttagcctg	aagtcacctg	ctgagactgt	tttgaacttt	660	
ccccttgaca	agtcaccttct	acttcgttgc	agcaactggg	atgctgagac	tctcacagag	720	
gaccaggtaa	tttatgtctg	caggtatgcc	cagatttcag	tggctctctt	tcttcactct	780	
cttggatacc	ctttctctag	gaattcacct	ggagaaaaaa	aacgatgacc	acagtagctg	840	
gagaaaagtc	ttggaaaaat	gccaggggtgt	ggtcgacatc	ccatttctga	gcaaagggaat	900	
gagcagattg	ggagaagagg	ttaatgggga	agcaacagaa	tctcagcaga	agccaagaaa	960	
taagaagtct	aagatgggat	ggatggtgcc	aggcaaccac	caagggagag	acccagaaa	1020	
acataaaaga	aagcctctgg	gggtgggcta	ttctgccaga	aatcacctc	tttatgataa	1080	
ctgcttttct	catgctcctg	atggacagcc	cctctgcaat	tgtgatagaa	gaaaagctca	1140	
gtggtacctg	gacaaaggca	tgtgtgagct	ggtgagtga	gagccctttg	tgttgaagct	1200	
gcggtttgaa	cctgcaggaa	ggcccgaaat	tctctgagac	tattacttga	tgtttaaaga	1260	
gaacctgtgt	gtagtgtgtg	gcaagagaga	ctcctacatt	cggaagaacg	tgattccaca	1320	
tgagtaccgg	aagcacttcc	ccatcgagat	gaaggaccac	aactcccacg	atgtgctgct	1380	
gctctgcacc	tcttgccatg	ccatttccaa	ctactatgac	aaccatctga	agcagcagct	1440	
ggccaaggag	ttccaggccc	ccatcggtct	tgaggagggc	ttgcgcctgc	tggaaagatcc	1500	
tgacgcgccg	caggtgcgtt	ctggggccag	ggccctgctc	aacgcggaga	gctgccttac	1560	
tcacgaaaag	gaggagctgc	tgcaagcact	cagagagttt	tataacacag	acgtggtcac	1620	
agaggagatg	cttcaagagg	tgccagcct	ggagaccaga	atctccaatg	aaaactatgt	1680	
tcctcacggg	ctgaaggtgg	tcagtgctca	cagccagggt	ggcctgcgct	ccctcatgca	1740	
gctggagagc	cgctggcgct	agcacttctc	ggactccatg	cagcccaagc	acctgccccca	1800	
gcagtgggtca	gtggaccaca	accatcagaa	gctgctccgg	aaattcgggg	aagatcttcc	1860	


```

catccagctg tcttgatagc tgctttcctc ccagtttagga caagtgggaa gctggagcca 1920
agggttgaaga gtcacctcct cccatttttag tacatcatta attgtcaaag cctgtgtgac 1980
acaactcaga atactaacct agactaatcc caggatgctt ctgctggagc aaagatattg 2040
tttgaaggag agtttatggg tttggatttt aaacgggcag ggtctttttt cctctcattt 2100
ttgtggacaa gagaggcctt cgcctttatt tttactctcc ctcttctgct gtccctgtgc 2160
agaggaaaaa tgaagaattc tcccagaagt gacttggtcaa gacttaaaaa aaatgttttt 2220
aatgcatttc ttccttgtct agtgccctcg tttatctcta acaggggctg tccagtatat 2280
cggtcctgtt aggaggggag aaaaagtctt tccaaaggct ggagaagtga acaaggagtc 2340
aaattttatt tcccaattca acttcataat tatcattttt ttgggttcat gctctcccgt 2400
aactcatgtg gttgggatcc atcccactct gggtcacttca gtctacttca cgtacttgaa 2460
aaggcttttc ttacacttc caggaccaa cagcaacttc ctgccacaca ctccaccct 2520
atcactggga gaaatccttt tctggacatg agcctttgac ctgggtgggg cagaaagaac 2580
cacaactcc atctcccaat agaactttga aattcactca gcttttcctt tcatgtgtt 2640
tggtgcctgc ttgttgact cctcctgccc cagaactgca agatttttag ctccaccct 2700
ttctgagagt aatgttatct tttatcagaa tcagtatcag ttcccctgta ttctgtgctt 2760
catcgaattt gcaagactga cctcttttaa gcatttaatt cactcccaga gtcactgtgt 2820
caggttgcaa tatgaggact tctctgtctc ctctgaagcc tgggacactg agcttactta 2880
atacattaga tgttcaaaag aggagcgttg tttcatcttt caaaatgtta ggccattact 2940
ttgagtataa aatcgactta ttaatgatta gtaatttttc taaagtattg ggaaaacttt 3000
cttattttat aagatcttaa caagcttaaa aaagaatttt atgaccagaa tccaacaaga 3060
gctctatttt ggaattgtgc ccaagtgtgt gatgtttact ctaaaattaa taataaaact 3120
acttgtaagc aaaaaaaaaa aaaaaaaaaa 3149

```

<210> 128

<211> 380

<212> PRT

<213> Homo sapiens

<400> 128

```

Met Leu Pro Gly Met Pro Arg Phe Gln Trp Leu Ser Phe Phe Ile Phe
  1             5             10             15

Leu Asp Thr Leu Ser Leu Gly Ile His Leu Glu Lys Lys Asn Asp Asp
  20             25             30

His Ser Ser Trp Arg Lys Val Leu Glu Lys Cys Gln Gly Val Val Asp
  35             40             45

Ile Pro Phe Arg Ser Lys Gly Met Ser Arg Leu Gly Glu Glu Val Asn
  50             55             60

Gly Glu Ala Thr Glu Ser Gln Gln Lys Pro Arg Asn Lys Lys Ser Lys
  65             70             75             80

Met Asp Gly Met Val Pro Gly Asn His Gln Gly Arg Asp Pro Arg Lys
  85             90             95

His Lys Arg Lys Pro Leu Gly Val Gly Tyr Ser Ala Arg Lys Ser Pro
  100            105            110

Leu Tyr Asp Asn Cys Phe Leu His Ala Pro Asp Gly Gln Pro Leu Cys
  115            120            125

Thr Cys Asp Arg Arg Lys Ala Gln Trp Tyr Leu Asp Lys Gly Ile Gly
  130            135            140

Glu Leu Val Ser Glu Glu Pro Phe Val Val Lys Leu Arg Phe Glu Pro
  145            150            155            160

Ala Gly Arg Pro Glu Ser Pro Gly Asp Tyr Tyr Leu Met Val Lys Glu
  165            170            175

```

Asn Leu Cys Val Val Cys Gly Lys Arg Asp Ser Tyr Ile Arg Lys Asn
 180 185 190
 Val Ile Pro His Glu Tyr Arg Lys His Phe Pro Ile Glu Met Lys Asp
 195 200 205
 His Asn Ser His Asp Val Leu Leu Leu Cys Thr Ser Cys His Ala Ile
 210 215 220
 Ser Asn Tyr Tyr Asp Asn His Leu Lys Gln Gln Leu Ala Lys Glu Phe
 225 230 235 240
 Gln Ala Pro Ile Gly Ser Glu Glu Gly Leu Arg Leu Leu Glu Asp Pro
 245 250 255
 Glu Arg Arg Gln Val Arg Ser Gly Ala Arg Ala Leu Leu Asn Ala Glu
 260 265 270
 Ser Leu Pro Thr His Arg Lys Glu Glu Leu Leu Gln Ala Leu Arg Glu
 275 280 285
 Phe Tyr Asn Thr Asp Val Val Thr Glu Glu Met Leu Gln Glu Ala Ala
 290 295 300
 Ser Leu Glu Thr Arg Ile Ser Asn Glu Asn Tyr Val Pro His Gly Leu
 305 310 315 320
 Lys Val Val Gln Cys His Ser Gln Gly Gly Leu Arg Ser Leu Met Gln
 325 330 335
 Leu Glu Ser Arg Trp Arg Gln His Phe Leu Asp Ser Met Gln Pro Lys
 340 345 350
 His Leu Pro Gln Gln Trp Ser Val Asp His Asn His Gln Lys Leu Leu
 355 360 365
 Arg Lys Phe Gly Glu Asp Leu Pro Ile Gln Leu Ser
 370 375 380

<210> 129

<211> 1861

<212> DNA

<213> Homo sapiens

<400> 129

agagccaggg gggtcgcgta gtgtcatgac cagggcgggga gatcacaacc gccagagagg 60
 atgctgtgga tccttgggcg actacctgac ctctgcaaaa ttccttctct accttgggtca 120
 ttctctctct acttggggag atcggatgtg gcactttgcg gtgtctgtgt ttctggtaga 180
 gctctatgga aacagcctcc ttttgacagc agtctacggg ctgggtgggtg cagggctctgt 240
 tctggctctg ggagccatca tcggtgactg ggtggacaag aatgctagac ttaaagtggc 300
 ccagacctcg ctgggtggtac agaatgtttc agtcatcctg tgtggaatca tcctgatgat 360
 ggttttctta cataaacatg agcttctgac catgtaccat ggatgggttc tcacttctctg 420
 ctatatcctg atcatcacta ttgcaaatat tgcaaatttg gccagtactg ctactgcaat 480
 cacaatccaa agggattgga ttgttgttgt tgaggagaa gacagaagca aactagcaaa 540
 tatgaatgcc acaatacgaa ggattgacca gttaaccaac atcttagccc ccatggctgt 600
 tggccagatt atgacatttg gctcccart catcggtgt ggctttattt cgggatggaa 660
 cttggtatcc atgtgcgtgg agtacgttct gctctggaag gtttaccaga aaacccagc 720
 tctagctgtg aaagctggtc ttaaagaaga ggaaactgaa ttgaaacagc tgaatttaca 780
 caaagatact gagccaaaac ccctggaggg aactcatcta atgggtgtga aagactctaa 840
 catccatgag cttgaacatg agcaagagcc tacttgtgcc tccagatgg ctgagccctt 900
 ccgtaccttc cgagatggat ggggtctccta ctacaaccag cctgtgtttc tggctggcat 960

```

gggtcttgct ttcctttata tgactgtcct gggctttgac tgcacaccca cagggtacgc 1020
ctacactcag ggactgagtg gttccatcct cagtattttg atgggagcat cagctataac 1080
tggaataatg ggaactgtag cttttacttg gctacgtcga aaatgtgggt tgggtcggac 1140
aggtctgac tcaggattgg cacagctttc ctggttgatc ttgtgtgtga tctctgtatt 1200
catgcctgga agccccctgg acttgctcgt ttctcctttt gaagatatcc gatcaagggt 1260
cattcaagga gagtcaatta cacctaccaa gatacctgaa attacaactg aaatatacat 1320
gtctaattgg tctaattctg ctaatatgtt cccggagaca agtcctgaat ctgtgccccat 1380
aatctctgtc agtctgctgt ttgcaggcgt cattgctgct agaatcgggc tttggctcctt 1440
tgatttaact gtgacacagt tgctgcaaga aaatgtaatt gaatctgaaa gaggcattat 1500
aaatgggtga cagaactcca tgaactatct tcttratctt ctgcatttca tcatgggtcat 1560
cctggctcca aatcctgaag cttttggcct gctcgtattg atttcagtct cctttgtggc 1620
aatggggcac attatgtatt tccgatttgc ccaaaatact ctgggaaaca agctccttgc 1680
ttgcggctct gatgcaaaag aagttaggaa ggaaaatcaa gcaaatacat ctggtgtttg 1740
agacagttta actgttgcta tcctgttact agattatata gagcacatgt gcttattttg 1800
tactgcagaa ttccaataaa tggctgggtg ttttgctctg tttttaaaaa aaaaaaaaaa 1860
a                                                                                   1861

```

<210> 130
 <211> 571
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (202)

<220>
 <221> UNSURE
 <222> (504)

<400> 130
 Met Thr Arg Ala Gly Asp His Asn Arg Gln Arg Gly Cys Cys Gly Ser
 1 5 10 15
 Leu Ala Asp Tyr Leu Thr Ser Ala Lys Phe Leu Leu Tyr Leu Gly His
 20 25 30
 Ser Leu Ser Thr Trp Gly Asp Arg Met Trp His Phe Ala Val Ser Val
 35 40 45
 Phe Leu Val Glu Leu Tyr Gly Asn Ser Leu Leu Leu Thr Ala Val Tyr
 50 55 60
 Gly Leu Val Val Ala Gly Ser Val Leu Val Leu Gly Ala Ile Ile Gly
 65 70 75 80
 Asp Trp Val Asp Lys Asn Ala Arg Leu Lys Val Ala Gln Thr Ser Leu
 85 90 95
 Val Val Gln Asn Val Ser Val Ile Leu Cys Gly Ile Ile Leu Met Met
 100 105 110
 Val Phe Leu His Lys His Glu Leu Leu Thr Met Tyr His Gly Trp Val
 115 120 125
 Leu Thr Ser Cys Tyr Ile Leu Ile Ile Thr Ile Ala Asn Ile Ala Asn
 130 135 140
 Leu Ala Ser Thr Ala Thr Ala Ile Thr Ile Gln Arg Asp Trp Ile Val
 145 150 155 160

Val Val Ala Gly Glu Asp Arg Ser Lys Leu Ala Asn Met Asn Ala Thr
 165 170 175
 Ile Arg Arg Ile Asp Gln Leu Thr Asn Ile Leu Ala Pro Met Ala Val
 180 185 190
 Gly Gln Ile Met Thr Phe Gly Ser Pro Xaa Ile Gly Cys Gly Phe Ile
 195 200 205
 Ser Gly Trp Asn Leu Val Ser Met Cys Val Glu Tyr Val Leu Leu Trp
 210 215 220
 Lys Val Tyr Gln Lys Thr Pro Ala Leu Ala Val Lys Ala Gly Leu Lys
 225 230 235 240
 Glu Glu Glu Thr Glu Leu Lys Gln Leu Asn Leu His Lys Asp Thr Glu
 245 250 255
 Pro Lys Pro Leu Glu Gly Thr His Leu Met Gly Val Lys Asp Ser Asn
 260 265 270
 Ile His Glu Leu Glu His Glu Gln Glu Pro Thr Cys Ala Ser Gln Met
 275 280 285
 Ala Glu Pro Phe Arg Thr Phe Arg Asp Gly Trp Val Ser Tyr Tyr Asn
 290 295 300
 Gln Pro Val Phe Leu Ala Gly Met Gly Leu Ala Phe Leu Tyr Met Thr
 305 310 315 320
 Val Leu Gly Phe Asp Cys Ile Thr Thr Gly Tyr Ala Tyr Thr Gln Gly
 325 330 335
 Leu Ser Gly Ser Ile Leu Ser Ile Leu Met Gly Ala Ser Ala Ile Thr
 340 345 350
 Gly Ile Met Gly Thr Val Ala Phe Thr Trp Leu Arg Arg Lys Cys Gly
 355 360 365
 Leu Val Arg Thr Gly Leu Ile Ser Gly Leu Ala Gln Leu Ser Cys Leu
 370 375 380
 Ile Leu Cys Val Ile Ser Val Phe Met Pro Gly Ser Pro Leu Asp Leu
 385 390 395 400
 Ser Val Ser Pro Phe Glu Asp Ile Arg Ser Arg Phe Ile Gln Gly Glu
 405 410 415
 Ser Ile Thr Pro Thr Lys Ile Pro Glu Ile Thr Thr Glu Ile Tyr Met
 420 425 430
 Ser Asn Gly Ser Asn Ser Ala Asn Ile Val Pro Glu Thr Ser Pro Glu
 435 440 445
 Ser Val Pro Ile Ile Ser Val Ser Leu Leu Phe Ala Gly Val Ile Ala
 450 455 460
 Ala Arg Ile Gly Leu Trp Ser Phe Asp Leu Thr Val Thr Gln Leu Leu
 465 470 475 480
 Gln Glu Asn Val Ile Glu Ser Glu Arg Gly Ile Ile Asn Gly Val Gln
 485 490 495

Asn Ser Met Asn Tyr Leu Leu Xaa Leu Leu His Phe Ile Met Val Ile
500 505 510

Leu Ala Pro Asn Pro Glu Ala Phe Gly Leu Leu Val Leu Ile Ser Val
515 520 525

Ser Phe Val Ala Met Gly His Ile Met Tyr Phe Arg Phe Ala Gln Asn
530 535 540

Thr Leu Gly Asn Lys Leu Phe Ala Cys Gly Pro Asp Ala Lys Glu Val
545 550 555 560

Arg Lys Glu Asn Gln Ala Asn Thr Ser Val Val
565 570

<210> 131

<211> 2157

<212> DNA

<213> Homo sapiens

<400> 131

```

ctctctttaa tatcttcacc tctaccatgt gtctttcttt taatatagtt ataattttcc 60
aaccacgtag atcaatatatt actcatcatg accataaaat gcagtttagc catatagaaa 120
actatgatta cttttcttta taatttccct tcagttaata cttattttat tttctgtttt 180
tatcatctag tcaactcgca aacttccagc atttgtctaa atctactcaa tatattccag 240
tacatcagat aatatatcag ttccatcctc ctgaaaaact cttttccagt gtatcctgac 300
ctgctctaatt tttgacttga tgctttctgt atctggtgca cagctgttac cttggaatct 360
tcccttcac c attattcaga gtgtttctgt agtttttctc ttgcattgga ttttgtgctt 420
cctgaatccc tctctctctt tttttttttt tttttacttg gcttactcct tgctttgatg 480
gatctcaggc tccagtagct tccttggaag gagtggttgg aagttgcttc tgcaggaagc 540
ctttttgggtg gcatggctct caagaagttc ctaaaagggt gatgaaaagc ccagaacctt 600
gatgacagat tgtctgggtta taaagcattt tttacgtaaa atcatcatgg tgcaccctaa 660
ggtcagattt catttcagtg taaaggtaaa tggaaatctc tccacagaga tctttggggg 720
ggagaatgaa cccactttga accttggaag tggaaattgct cttttgggtc actcccagca 780
ttatgtgagt agaccaaatt ttggtacaat tgaatcacac tgcagcagaa ttcacctgt 840
gctaggacat ccagtaatgc ttttcatccc tgaagacgtg gctggcatgg acttggtggg 900
agaactgata ctgactccag cagctgcact gtgccccagc ccaaagggtt cttccaacca 960
gcttaacagg atttcttcag tttccatatt tctatatgga cttttgggtc tgccctctgat 1020
attgtcaact tgggagcagc cgatgactac tttcttcaaa gatacctctt ctttagttga 1080
ctggaaaata ccatttgtgt atgataccca atttggatct caatttggat agagatttgg 1140
tgcttccaga tgtgagttat caggtggaat ccagtgagga ggatcagtct cagactatgg 1200
atcctcaagg acaaactctg ctgctttttc tctttgtgga tttccacagt gcatttccag 1260
tccagcaaat ggaaatctgg ggagtctata ctttgtcac aactcatctc aatgccatcc 1320
ttgtggagag ccacagtgta gtgcaagggt ccatccaatt cactgtggac aaggtcttgg 1380
agcaacatca ccaggctgcc aaggctcagc agaaactaca ggcctcactc tcagtggctg 1440
tgaactccat catgagtatt ctgactggaa gcactaggag cagcttccga aagatgtgtc 1500
tccagacctt tcaagcagct gacacacaag agttcaggac caaactgcac aaagtatttc 1560
gtgagatcac ccaacaccaa tttcttcacc actgctcatg tgaggtgaag cagctaacc 1620
tagaaaaaaa ccaagtcagc cagggcactg aggacgcacc tgataacagc agcctggagc 1680
tcctagcagt gcttaaacag ccttcccagc ccacagcagc aggggtacag cagctctcac 1740
attcagtcac tagcagagat gccagatacc agcgggcaag cagaaaacaa gaggctcaag 1800
aggggcagcc cccgcataga ggagatgcga gctctgcgt ctgccagggc cccgagcccg 1860
tcagaggccg cccgcgcgcg cccggaagcc accgcggccc cctcactcy tagaggaagg 1920
gagcaccgcg aggtcaccg cagggccctg gcgcgggca gggcgagcct cggagccgc 1980
ctggaggacg tcctgtggct gcaggaggtc tccaacctgt cagagtggct gagtcccagc 2040
cctgggccc ctagccgggtc cccttcgcga agcgcacc gatccggagg ctgcccggcag 2100
ccgttatccc gtggtttaat aaagctgccg cgcgtccacc aaaaaaaaaa aaaaaaa 2157

```

<210> 132

<211> 270

90

<212> PRT

<213> Homo sapiens

<400> 132

Met Ile Pro Asn Leu Asp Leu Asn Leu Asp Arg Asp Leu Val Leu Pro
 1 5 10 15

Asp Val Ser Tyr Gln Val Glu Ser Ser Glu Glu Asp Gln Ser Gln Thr
 20 25 30

Met Asp Pro Gln Gly Gln Thr Leu Leu Leu Phe Leu Phe Val Asp Phe
 35 40 45

His Ser Ala Phe Pro Val Gln Gln Met Glu Ile Trp Gly Val Tyr Thr
 50 55 60

Leu Leu Thr Thr His Leu Asn Ala Ile Leu Val Glu Ser His Ser Val
 65 70 75 80

Val Gln Gly Ser Ile Gln Phe Thr Val Asp Lys Val Leu Glu Gln His
 85 90 95

His Gln Ala Ala Lys Ala Gln Gln Lys Leu Gln Ala Ser Leu Ser Val
 100 105 110

Ala Val Asn Ser Ile Met Ser Ile Leu Thr Gly Ser Thr Arg Ser Ser
 115 120 125

Phe Arg Lys Met Cys Leu Gln Thr Leu Gln Ala Ala Asp Thr Gln Glu
 130 135 140

Phe Arg Thr Lys Leu His Lys Val Phe Arg Glu Ile Thr Gln His Gln
 145 150 155 160

Phe Leu His His Cys Ser Cys Glu Val Lys Gln Leu Thr Leu Glu Lys
 165 170 175

Lys Asp Ser Ala Gln Gly Thr Glu Asp Ala Pro Asp Asn Ser Ser Leu
 180 185 190

Glu Leu Leu Ala Val Leu Lys Gln Pro Ser Gln Pro Thr Ala Ala Gly
 195 200 205

Val Gln Gln Leu Ser His Ser Val Thr Ser Arg Asp Ala Arg Tyr Gln
 210 215 220

Arg Ala Ser Arg Lys Gln Glu Ala Gln Glu Gly Gln Pro Pro His Arg
 225 230 235 240

Gly Asp Ala Ser Ser Ala Leu Cys Gln Gly Pro Glu Pro Val Arg Gly
 245 250 255

Arg Pro Ala Pro Pro Gly Ser His Arg Gly Pro Pro His Ser
 260 265 270

<210> 133

<211> 1607

<212> DNA

<213> Homo sapiens

<400> 133

```

gtgaacttca ctactggaaa gcaacaaagg cagtcggcat aaaaatgggt tctctcagca 60
cagctaacgt tgaattttgc cttgatgtgt tcaaagagct gaacagtaac aacataggag 120
ataacatctt cttttcttcg ctgagtctgc tttatgctct aagcatgggt ctccttgggt 180
ccaggggaga gactgcagag caattggaga aggtgcttca ttttagtcat actgtagact 240
cattaaaacc aggttcaag gactcaccta agtgcagcca agctggaaga attcattccg 300
agtttgggtg ctaattctct caaatcaacc agccagactc taactgtacc ctcagcattg 360
ccaacaggct ctacgggaca aagacgatgg catttcatca ggaaaagtcg caaatctctt 420
tggaagagc acaattgacc cttcatctgt aatggctctg gtgaatacca tatatttcaa 480
aggacaatgg caaaataaat ttcaagtaag agagacagtt aaaagtcctt ttcagctaag 540
tgagggtaaa aatgtaactg tggaaatgat gtatcaaatt ggaacattta aactggcctt 600
tgtaaaggag ccgcatgctc aagttcttga gctgccctac gttaacaaca aattaagcat 660
gattattctg cttccagtag gcatagctaa tctgaaacag atagaaaagc agctgaattc 720
ggggacgttt catgagtggg caagctcttc taacatgatg gaaagagaag ttgaagtaca 780
cctccccaga ttcaaaactg aaattaagta tgagctaaat tccctgttaa aacctctagg 840
ggtgacagat ctcttcaacc aggtcaaagc tgatctttct ggaatgtcac caaccaaggg 900
cctatattta tcaaaagcca tccacaagtc atacctggat gtcagcgaag agggcacgga 960
ggcagcagca gccactgggg acagcatcgc tgtaaaaagc ctaccaatga gagctcagtt 1020
caaggcgaac cacccttcc tgttctttat aaggcacact cataccaaca cgatcctatt 1080
ctgtggcaag cttgcctctc cctaatcaga tgggggttgag taaggctcag agttgcagat 1140
gaggtgcaga gacaatcctg tgactttccc acggccaaaa agctgttcac acctcacaca 1200
cctctgtgcc tcagtttctc catctgcaaa ataggtctag gatttcttcc aaccatttca 1260
tgagttgtga agctaaggct ttgttaatca tggaaaaagg tagacttatg cagaaagcct 1320
ttctggcttt cttatctgtg gtgtctcatt tgagtgtgt ccagtgcacat gatcaagtca 1380
atgagtaaaa ttttaaggga ttagattttc ttgacttgta kgtatctgtg agatcttgaa 1440
taagtgcact gacatctctg cttaaagaaa accagctgaa gggcttcaac tttgcttgga 1500
tttttaata ttttcttgc atatgtaaat agaatgtggg gagttttagt tcaaaattct 1560
ctgttgagaa taataaatgc atgaaatacc ttaaaaaaaa aaaaaaa 1607

```

<210> 134

<211> 217

<212> PRT

<213> Homo sapiens

<400> 134

```

Met Val Leu Val Asn Thr Ile Tyr Phe Lys Gly Gln Trp Gln Asn Lys
  1             5             10             15

```

```

Phe Gln Val Arg Glu Thr Val Lys Ser Pro Phe Gln Leu Ser Glu Gly
  20             25             30

```

```

Lys Asn Val Thr Val Glu Met Met Tyr Gln Ile Gly Thr Phe Lys Leu
  35             40             45

```

```

Ala Phe Val Lys Glu Pro Gln Met Gln Val Leu Glu Leu Pro Tyr Val
  50             55             60

```

```

Asn Asn Lys Leu Ser Met Ile Ile Leu Leu Pro Val Gly Ile Ala Asn
  65             70             75             80

```

```

Leu Lys Gln Ile Glu Lys Gln Leu Asn Ser Gly Thr Phe His Glu Trp
  85             90             95

```

```

Thr Ser Ser Ser Asn Met Met Glu Arg Glu Val Glu Val His Leu Pro
 100             105             110

```

```

Arg Phe Lys Leu Glu Ile Lys Tyr Glu Leu Asn Ser Leu Leu Lys Pro
 115             120             125

```

```

Leu Gly Val Thr Asp Leu Phe Asn Gln Val Lys Ala Asp Leu Ser Gly
 130             135             140

```

92

Met Ser Pro Thr Lys Gly Leu Tyr Leu Ser Lys Ala Ile His Lys Ser
145 150 155 160

Tyr Leu Asp Val Ser Glu Glu Gly Thr Glu Ala Ala Ala Ala Thr Gly
165 170 175

Asp Ser Ile Ala Val Lys Ser Leu Pro Met Arg Ala Gln Phe Lys Ala
180 185 190

Asn His Pro Phe Leu Phe Phe Ile Arg His Thr His Thr Asn Thr Ile
195 200 205

Leu Phe Cys Gly Lys Leu Ala Ser Pro
210 215

<210> 135

<211> 1537

<212> DNA

<213> Homo sapiens

<400> 135

gtaggatttg gggatgtgga tatttaagac aatttctttt ttcttttggt ttaatagggg 60
cggttatagg gaccaactgg gaccgagtgcc ccagggggcc gagcacgggc atgctggccg 120
gcctgcatgc atgcgtgtgc cgggctgggc tgggcgccgc gcggtcgtgg ggcaggggtg 180
ggggtctgtg ctcagctgat aactgccatg cactgtactg cacacgtccc tagagcctac 240
cgggacccga cgcttttcag ggcattttct cctccagcca gggcccaact cccacctgcc 300
tgggcgaatc tcctccaagg aagtcccagg aggatgggga ccaggaaggc tgtggacccc 360
catctccagg gggccttccc agcctgatcc ctgtcctcca agttctggag gaggccgctg 420
tagggctgtg ctgagcttcc caccactttt ccctgggtccc aatcctttct tgtcctatac 480
ccagctgggg ttgctgccct gaacgaactg cgtgtggggc cggcacatcc tagcaggcag 540
cccctggcgc ctgctgcctc agggatgctc caaccacct cgttctcctc gcagtggccc 600
tggctcccac ctcccgcgcc agcctgccgt ggggcccgtc agcctgggtc caccctcatg 660
gagaacccaa agtcttactg tatataactc cagggtgacgt ttctatatatt atagcagtgt 720
tgaaaaccca cgtgttttac acagaaccac cctctccaac ccctcccttc ccgaccccaa 780
caaaacgttt tcaaaccctt tacagttcct ggggcaggcg gaaacaggct cacagattgt 840
gtgtcggctg cagcagtgat tccaacaagc agctattggg ggggaaacac agcattttaa 900
aagatcatca ttaaaaaaca agatttatat aacaattact taggatgttt gtgatctgcc 960
gaccttgcta tagatgccat gttaccaatg atttctctgt gtgggggctt gccattgttt 1020
actctcttat ttaccaactt ctggcctagg ctgacagtg ggcaccttcc cccagccctg 1080
gctggggcca ggcctgtgt tytggttag aaaggtttta tatatatata aaattacata 1140
tatakgtaga aatatatgta attttggggg ccctgttctc tgcacatttt acagttacct 1200
catttttccc atgtatgtat ttgagaaaat gctaataat agagaaaaaa atggttctta 1260
aaacttaaag gtgtgggttt ttccattcca tgggattcac attggtttgt agcatttaac 1320
ataactagta tggtgtatta tatatatgtg tatactgatt gaaattttta acagatttgt 1380
acttttttta aaatgaaagt tgctagttct gcttgacca gtagtgcaat cattattttt 1440
tttaatatgt ttgctgattt cagagggata ttcactaata aatgtatgat gtataccac 1500
graaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1537

<210> 136

<211> 86

<212> PRT

<213> Homo sapiens

<400> 136

Met His Ala Cys Ala Gly Leu Gly Trp Ala Ala Gly Gly Arg Gly Ala
1 5 10 15

Gly Leu Gly Val Cys Ala Gln Leu Ile Thr Ala Met His Cys Thr Ala
20 25 30

His Val Pro Arg Ala Tyr Arg Asp Pro Thr Leu Phe Arg Ala Phe Leu
 35 40 45

Pro Pro Ala Arg Ala Gln Leu Pro Pro Ala Trp Ala Asn Leu Leu Gln
 50 55 60

Gly Ser Pro Arg Arg Met Gly Thr Arg Lys Ala Val Asp Pro His Leu
 65 70 75 80

Gln Gly Ala Phe Pro Ala
 85

<210> 137
 <211> 1302
 <212> DNA
 <213> Homo sapiens

<400> 137
 cttcatggcc tacacacacc accttaccce tctgctggca agaggggacc tgattcatcc 60
 tcacgctaaa cactcattct acccaactga ttgagacaga acagaagata aactgaaact 120
 tctctgcctt cccgctgcaa gagtgaatga gcgatccctc tcaactgact caaaatgttt 180
 gcctcaccga ggagatggag ctctcgaaag ccttctctgg ccagcggaca ctccatctcg 240
 ccacctcag catgctatca ctccagcttct ccacaacatc cctgctcagc aactactgg 300
 ttgtgggcac acagaagggtg cccaagcccc tgtgcgagaa aggtctggca gccaagtgt 360
 ttgacatgcc agtgtccctg gatggagata ccaacacatc caccaggag gtggtacaat 420
 acaactggga gactggggat gaccggttct cctccggag cttccggagt ggcatgtggc 480
 taccctgtga ggaaactgtg gaagaaccag gggagagggtg ccgaagtttc attgaactta 540
 caccaccagc caagagagaa atccatgtgt tatccctggg aacgcagatc acctacatcg 600
 gacttcaatt catcagcttc ctctgctac taacagactt gctactcact gggaaccctg 660
 cctgtgggct caaactgagc gcctttgctg ctgtttcctc tgtcctgtca ggtctcctgg 720
 ggatgggtggc ccacatgatg tattcacaag tcttccaagc gactgtcaac ttgggtccag 780
 aagactggag accacatgtt tggaattatg gctgggcctt ctacatggcc tggctctcct 840
 tcacctgctg catggcgtcg gctgtcacca ccttcaacac gtacaccagg atgggtgctgg 900
 agttcaagtg caagcatagt aagagcttca aggaaaaccc gaactgccta ccacatcacc 960
 atcagtgttt cctcggcgg ctgtcaagtg cagccccac cgtgggtcct ttgaccagct 1020
 accaccagta tcataatcag cccatccact ctgtctctga gggagtcgac ttctactccg 1080
 agctgcggaa caagggattt caaagagggg ccagccagga gctgaaagaa gcagttaggt 1140
 catctgtaga ggaagagcag tgtaggaggt taagcgggtt tggggagtag gcttgagccc 1200
 taccttacac gtctgctgat tatcaacatg tgcttaagcc aaaaaaaaaa aaaaaaaaaa 1260
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1302

<210> 138
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 138
 Met Ser Asp Pro Ser Gln Leu Thr Gln Asn Val Cys Leu Thr Gln Glu
 1 5 10 15

Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr Leu Leu Ser Ala
 20 25 30

Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr Thr Ser Leu Leu Ser
 35 40 45

Asn Tyr Trp Phe Val Gly Thr Gln Lys Val Pro Lys Pro Leu Cys Glu
 50 55 60

Lys Gly Leu Ala Ala Lys Cys Phe Asp Met Pro Val Ser Leu Asp Gly
 65 70 75 80

Asp Thr Asn Thr Ser Thr Gln Glu Val Val Gln Tyr Asn Trp Glu Thr
 85 90 95
 Gly Asp Asp Arg Phe Ser Phe Arg Ser Phe Arg Ser Gly Met Trp Leu
 100 105 110
 Ser Cys Glu Glu Thr Val Glu Glu Pro Gly Glu Arg Cys Arg Ser Phe
 115 120 125
 Ile Glu Leu Thr Pro Pro Ala Lys Arg Glu Ile Leu Trp Leu Ser Leu
 130 135 140
 Gly Thr Gln Ile Thr Tyr Ile Gly Leu Gln Phe Ile Ser Phe Leu Leu
 145 150 155 160
 Leu Leu Thr Asp Leu Leu Leu Thr Gly Asn Pro Ala Cys Gly Leu Lys
 165 170 175
 Leu Ser Ala Phe Ala Ala Val Ser Ser Val Leu Ser Gly Leu Leu Gly
 180 185 190
 Met Val Ala His Met Met Tyr Ser Gln Val Phe Gln Ala Thr Val Asn
 195 200 205
 Leu Gly Pro Glu Asp Trp Arg Pro His Val Trp Asn Tyr Gly Trp Ala
 210 215 220
 Phe Tyr Met Ala Trp Leu Ser Phe Thr Cys Cys Met Ala Ser Ala Val
 225 230 235 240
 Thr Thr Phe Asn Thr Tyr Thr Arg Met Val Leu Glu Phe Lys Cys Lys
 245 250 255
 His Ser Lys Ser Phe Lys Glu Asn Pro Asn Cys Leu Pro His His His
 260 265 270
 Gln Cys Phe Pro Arg Arg Leu Ser Ser Ala Ala Pro Thr Val Gly Pro
 275 280 285
 Leu Thr Ser Tyr His Gln Tyr His Asn Gln Pro Ile His Ser Val Ser
 290 295 300
 Glu Gly Val Asp Phe Tyr Ser Glu Leu Arg Asn Lys Gly Phe Gln Arg
 305 310 315 320
 Gly Ala Ser Gln Glu Leu Lys Glu Ala Val Arg Ser Ser Val Glu Glu
 325 330 335
 Glu Gln Cys

<210> 139

<211> 3184

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (1644)

<400> 139

```
gtgcatgctt gtaatcgcag ctacttcgga gcctgagaga ctccttcagg gtgagcaaag 60
gcctggaaaa acctgtatgc agataaagaa aaggaaagaa agagataatc agtgcattgc 120
gttgctcagct ggctgggacc tgaggagagt cacttggtgga ggcaactggg ctttatcccc 180
attgtccggg acaaggcagg cattaatcct gtgatccctta tctgaagctc agctacaagg 240
ctttggccga ccaagtgtgt accatgctgc tattgtcatc ttccttgaat tctttgcgtg 300
gggcctgttg acaactccaa tgttgactgt tctacatgaa acattttctc aacacacatt 360
cctcatgaat ggtctcattc aagggtgtaa gggcctgctc tcttttttga gtgccccact 420
cattgggtgcc ctgtctgatg tgtgggggag gaagcccttt ctcctcgga ctgtattctt 480
tacctgcttc ccaatcccac tgatgaggat cagcccatgg tggatttttg cgatgatttc 540
tgtgtctgga gtcttctcgg tcacgttttc tgttatattt gcctatgtag ctgatgtcac 600
tcaggagcac gagcgaagta cagcttatgg atgggtctca gccacctttg cggttagtct 660
tgtcagcagc ccggccattg gagcatatct ttctgccagt tacggagaca gcctcggtgt 720
gctgggtggc acagtgggtg ctcttctgga catctgcttc atcttagtgg ctgttccaga 780
atctctgcct gagaaaatga gaccggtttc ctggggagct cagatttctt ggaaacaagc 840
agaccctttt gcgtcgttga agaaagttgg aaaagattct actgtcttac taatctgcct 900
caccgtgttt ctttcatacc ttctgaagc tggacagtat tcaagttttt ttctctatct 960
caggcaggtc ataggttttg gatctgttaa aattgcagca ttcatagcta tggtaggaat 1020
tctgtctatt gtggctcaga cggcctttct tagcatcttg atgagatcat taggaaataa 1080
gaatactgtc ctcttgggtc tgggcttcca gatgctccag ttagcctggg acggttttgg 1140
atcacaggcc tggatgatgt gggcagcagg gaccgtgggt gccatgtcca gcatcacgtt 1200
tccggcaatc agtgccctcg tctctcgga tgcagagtca gatcagcaag gagttgccc 1260
ggggatcata actggaataa gaggactatg caatggcctg gggccagcac tgtatggctt 1320
catattctac atgttccatg tggaaactgac tgagttgggc ccgaaattga attctaaca 1380
cgttccctcg caggagctg tcatccagg ccgcgctttt ttatttgggg catgtatagt 1440
ccttatgtct tttctggttg ccttattcat tcctgaatac agtaaagcca gtggagttca 1500
aaaacacagt aacagcagca gcggcagcct gaccaacacc ccagaacggg gcagtgatga 1560
ggacattgag ccactactgc aagacagcag catctgggag ctctcttcat ttgaggagcc 1620
tggaatcag tgactgagc tgtnaactcg gcagaaagtg ggattctgca tacgccatct 1680
ctgagagcca tggaggagc cacaccctcg gtgacttcat ggtgctggat gggagacgct 1740
agcggcatcc ttcagggcca agtttgataa ataccaccgc catcattctg ctcatcctcc 1800
tcctgttttt ttttttctc ttacattctt ttttttttct ctgtttatac attagaacaa 1860
gataagattt gaaatacttc cttgcaaata atgtgcaact cccaaggtga aactcaaata 1920
gaaaaagtca tctctctggt agaaaggatg gctttcctgt aatgactata gagtaagagt 1980
ggcagcaatc tttccatgcc cttttcagca gaaggcacag aacagtagcg ggactgccat 2040
ctctggcaag atttcaggta aagaatctct tcttaatttc taccttctctg tttctctgaa 2100
tcagcccata ggtgttgatg agtggccact cttaaagagt cactcagtat cagggatcta 2160
ctgtctttgt tcaaaggatc aataaaaacc tagtctcctt ttattctact ttctattctt 2220
agctagaatg aaactcagca tatatacact tctggacata ataattattga atagtaatta 2280
cctttactag atgaaagaaa ttttcattac aaacttaaat catgtaaaac tcaacaactc 2340
agattcctgg acctggtgtc ctggttgggt ccaaggtgat ttacagaag aaaaaaaca 2400
ctcaagcatt ctggtggcaa catagagatt gtaggctgct tctaagaaag ttattaacaa 2460
tttggaattt cctaagtagg atgagagtta gtaactggat acgagtgaag tttatatcca 2520
agttcagact caaaggcatt attatgattt gcttcttccc atgtcttcca tgtcctgctt 2580
ctcaaagttt ttctcatcca tcacactcct gccttaactg ctctgagtat gcatttgttt 2640
tcaattcatc tttatttcaa tctgtttaac ttttgaatcg catgggaata cgcacattaa 2700
gttcctttct aaaataagg tttatgaagc tgagtttcac gataagtgtc ttgctatttt 2760
ttgagatgtt ttatggacaa agaaaacttt acagatttat atgtattttg ctgcaccagt 2820
aatggacca ttaactaggg cccaccttta acagagcacc cctttgaaag ttttataggt 2880
atgaaatata ttagatatat tgtaaaagggt ttttaatttt tttttttgat ggggtgctgt 2940
gtaaatcctg tatttataaa tgtaaatgaag gtattgacag aaaaaaatat atacaactt 3000
tataaaggat tgtgtactga ctgaatacat ttaaaagaaa atatatattg aaacctgtt 3060
tgctatgaac gagataaaca tatcttttta ctatgctatt ggttttttagg ttaagcttcc 3120
taatgcataa taaatttaca gtggttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3180
aaaa 3184
```

<210> 140

<211> 454

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (442)

<400> 140

```

Met Leu Thr Val Leu His Glu Thr Phe Ser Gln His Thr Phe Leu Met
 1           5           10           15

Asn Gly Leu Ile Gln Gly Val Lys Gly Leu Leu Ser Phe Leu Ser Ala
 20           25           30

Pro Leu Ile Gly Ala Leu Ser Asp Val Trp Gly Arg Lys Pro Phe Leu
 35           40           45

Leu Gly Thr Val Phe Phe Thr Cys Phe Pro Ile Pro Leu Met Arg Ile
 50           55           60

Ser Pro Trp Trp Tyr Phe Ala Met Ile Ser Val Ser Gly Val Phe Ser
 65           70           75           80

Val Thr Phe Ser Val Ile Phe Ala Tyr Val Ala Asp Val Thr Gln Glu
      85           90           95

His Glu Arg Ser Thr Ala Tyr Gly Trp Val Ser Ala Thr Phe Ala Ala
    100           105           110

Ser Leu Val Ser Ser Pro Ala Ile Gly Ala Tyr Leu Ser Ala Ser Tyr
    115           120           125

Gly Asp Ser Leu Val Val Leu Val Ala Thr Val Val Ala Leu Leu Asp
    130           135           140

Ile Cys Phe Ile Leu Val Ala Val Pro Glu Ser Leu Pro Glu Lys Met
    145           150           155           160

Arg Pro Val Ser Trp Gly Ala Gln Ile Ser Trp Lys Gln Ala Asp Pro
    165           170           175

Phe Ala Ser Leu Lys Lys Val Gly Lys Asp Ser Thr Val Leu Leu Ile
    180           185           190

Cys Ile Thr Val Phe Leu Ser Tyr Leu Pro Glu Ala Gly Gln Tyr Ser
    195           200           205

Ser Phe Phe Leu Tyr Leu Arg Gln Val Ile Gly Phe Gly Ser Val Lys
    210           215           220

Ile Ala Ala Phe Ile Ala Met Val Gly Ile Leu Ser Ile Val Ala Gln
    225           230           235           240

Thr Ala Phe Leu Ser Ile Leu Met Arg Ser Leu Gly Asn Lys Asn Thr
    245           250           255

Val Leu Leu Gly Leu Gly Phe Gln Met Leu Gln Leu Ala Trp Tyr Gly
    260           265           270

Phe Gly Ser Gln Ala Trp Met Met Trp Ala Ala Gly Thr Val Ala Ala
    275           280           285

Met Ser Ser Ile Thr Phe Pro Ala Ile Ser Ala Leu Val Ser Arg Asn
    290           295           300

```

97,

Ala Glu Ser Asp Gln Gln Gly Val Ala Gln Gly Ile Ile Thr Gly Ile
305 310 315 320

Arg Gly Leu Cys Asn Gly Leu Gly Pro Ala Leu Tyr Gly Phe Ile Phe
325 330 335

Tyr Met Phe His Val Glu Leu Thr Glu Leu Gly Pro Lys Leu Asn Ser
340 345 350

Asn Asn Val Pro Leu Gln Gly Ala Val Ile Pro Gly Pro Pro Phe Leu
355 360 365

Phe Gly Ala Cys Ile Val Leu Met Ser Phe Leu Val Ala Leu Phe Ile
370 375 380

Pro Glu Tyr Ser Lys Ala Ser Gly Val Gln Lys His Ser Asn Ser Ser
385 390 395 400

Ser Gly Ser Leu Thr Asn Thr Pro Glu Arg Gly Ser Asp Glu Asp Ile
405 410 415

Glu Pro Leu Leu Gln Asp Ser Ser Ile Trp Glu Leu Ser Ser Phe Glu
420 425 430

Glu Pro Gly Asn Gln Cys Thr Glu Leu Xaa Thr Arg Gln Lys Val Gly
435 440 445

Phe Cys Ile Arg His Leu
450

<210> 141

<211> 2481

<212> DNA

<213> Homo sapiens

<400> 141

```

aggtctagaa ttcaatcggg aagaaggaaa agttcccttc tgctgtgaaa ctatttggca 60
agaggctgga gggcccaatg gctgcaaaat cgcaacccaa cattcccaaa gccaaagatc 120
tagatggcgt caccaatgac agaaccgcat ctcaagggca gtggggccgt gcctgggagg 180
tggaactgggt ttcaactggc agcgtcatct tcctactgct gttcgcccc ttcatcgtct 240
actacttcat catggcttgt gaccaataca gctgcgcctt gaccggccct gtggtggaca 300
tcgtcaccgg acatgctcgg ctctcggaca tctgggccaa gactccacct ataacgagga 360
aagccgcccc gctctatacc ttgtgggtca ccttcagggt gcttctgtac acgtctctcc 420
ctgacttctg ccataagttt ctaccgggtt acgtaggagg catccaggag ggggcccgtga 480
ctcctgcagg ggttgtgaac aagtatcaga tcaacggcct gcaagcctgg ctccctcacgc 540
acctgctctg gtttgcaaac gctcatctcc tgtcctggtt ctgccccacc atcatcttcg 600
acaactggat cccactgctg tgggtgcgca acatccttgg ctatgccgtc tccaccttcg 660
ccatgggtcaa gggctacttc ttccccacca gcgccagaga ctgcaaattc acaggcaatt 720
tcttttataa ctacatgatg ggcacgcagt ttaaccctcg gatcggaag tggtttgact 780
tcaagctgtt cttcaatggg cggcccgga tgcgtgcctg gacctcatc aacctgtcct 840
tcgcagcgaa gcagcgggag ctccacagcc atgtgaccaa tgccatggtc ctggtcaacg 900
tctgcaggc catctacgtg attgacttct tctggaacga aacctgggtac ctgaagacca 960
ttgacatctg ccattgaccac ttccgggtgtt acctgggctg gggcgactgt gtctggctgc 1020
cttatcttta cacgctgcag ggtctgtact tgggtgtacca ccccggtgag ctgtccacccc 1080
cgcacgcctg gggcgctcctg ctgctggggtc tgggtgggcta ctacatcttc cgggtggcca 1140
accaccagaa ggacctgttc cgccgcacgg atgggcgctg cctcatcttg ggcaggaagc 1200
ccaaggtcat cgagtgtctc tacacatccg ccgacgggca gaggcaccac agcaagctgc 1260
tgggtgtcggg cttctggggc gtggcccgcc acttcaacta cgtcgccgac ctgatgggca 1320
gcttggccta ctgctgggct tgtggcggtg gccacctgct gccctacttc tacatcatct 1380
acatggccat cctgctgacc caccgctgcc tccgggacga gcaccgctgc gccagcaagt 1440
acggccggga ctgggagcgc tacaccgccg cagtgcctta ccgcctgctg cctggaattc 1500

```

```

tctaagggca cgccctaggg agaagccctg tggggctgtc aagagcgtgt tctgccaggt 1560
ccatggggggc tggcatccca gctccaactc gaggagcctc agtttcctca tctgtaaact 1620
ggagagagacc cagcacttgg caggtgtcca gtacctaatc acgctctgtt ccttgctttt 1680
gccttcaagg gaattccgag tgtccagcac tgccgtattg ccagcacaga cggattttct 1740
ctaatacagtg tccctggggc aggaggatga cccagtcacc ttactagtc ctttgagagac 1800
aatttacctg tattaggagc ccaggccacg ctacactctg cccacactgg tgagcaggag 1860
gtcttcccac gccctgtcat taggctgcat ttactcttgc taaataaaaag tgggagtggg 1920
gcgtgcgcgt tatccatgta ttgcctttca gctctagatc cccctccctt gcctgctctg 1980
cagtcgtggg tggggcccggt gcgcggtttc tccttggtag cgtgcacggg gttgaactgg 2040
gacactgggg agaaaggggc ttcatgtcg ttctcttctt gctcctgctg macagctgcc 2100
aggagtgttc tgcctggagt ctgcagacct cagagaggtc ccagcactgg ctgtggcctt 2160
tcaggtgtag gcaggtgggc tctgcttccc gattccctgt gagcgccac cctctcgaaa 2220
gaattttctg cttgccctgt gactgtgcag actctggctc gagcaacccg gggaacttca 2280
ccctcagggg cctcccacac cttctccagc gaggaggtyt cagtcccagc ctcgggaggg 2340
cacctccttt tctgtgcttt cttccctgag gcattcttcc tcatccctag ggtgttgtgt 2400
agaactcttt ttaaactcta tgctccgagt agagtcatc tttatattaa acttcccctg 2460
ttcaaataaa aaaaaaaaaa a 2481

```

<210> 142

<211> 475

<212> PRT

<213> Homo sapiens

<400> 142

```

Met Ala Ala Lys Ser Gln Pro Asn Ile Pro Lys Ala Lys Ser Leu Asp
  1             5             10             15

```

```

Gly Val Thr Asn Asp Arg Thr Ala Ser Gln Gly Gln Trp Gly Arg Ala
      20             25             30

```

```

Trp Glu Val Asp Trp Phe Ser Leu Ala Ser Val Ile Phe Leu Leu Leu
    35             40             45

```

```

Phe Ala Pro Phe Ile Val Tyr Tyr Phe Ile Met Ala Cys Asp Gln Tyr
    50             55             60

```

```

Ser Cys Ala Leu Thr Gly Pro Val Val Asp Ile Val Thr Gly His Ala
    65             70             75             80

```

```

Arg Leu Ser Asp Ile Trp Ala Lys Thr Pro Pro Ile Thr Arg Lys Ala
      85             90             95

```

```

Ala Gln Leu Tyr Thr Leu Trp Val Thr Phe Gln Val Leu Leu Tyr Thr
    100             105             110

```

```

Ser Leu Pro Asp Phe Cys His Lys Phe Leu Pro Gly Tyr Val Gly Gly
    115             120             125

```

```

Ile Gln Glu Gly Ala Val Thr Pro Ala Gly Val Val Asn Lys Tyr Gln
    130             135             140

```

```

Ile Asn Gly Leu Gln Ala Trp Leu Leu Thr His Leu Leu Trp Phe Ala
    145             150             155             160

```

```

Asn Ala His Leu Leu Ser Trp Phe Ser Pro Thr Ile Ile Phe Asp Asn
    165             170             175

```

```

Trp Ile Pro Leu Leu Trp Cys Ala Asn Ile Leu Gly Tyr Ala Val Ser
    180             185             190

```

```

Thr Phe Ala Met Val Lys Gly Tyr Phe Phe Pro Thr Ser Ala Arg Asp
    195             200             205

```

Cys Lys Phe Thr Gly Asn Phe Phe Tyr Asn Tyr Met Met Gly Ile Glu
 210 215 220
 Phe Asn Pro Arg Ile Gly Lys Trp Phe Asp Phe Lys Leu Phe Phe Asn
 225 230 235 240
 Gly Arg Pro Gly Ile Val Ala Trp Thr Leu Ile Asn Leu Ser Phe Ala
 245 250 255
 Ala Lys Gln Arg Glu Leu His Ser His Val Thr Asn Ala Met Val Leu
 260 265 270
 Val Asn Val Leu Gln Ala Ile Tyr Val Ile Asp Phe Phe Trp Asn Glu
 275 280 285
 Thr Trp Tyr Leu Lys Thr Ile Asp Ile Cys His Asp His Phe Gly Trp
 290 295 300
 Tyr Leu Gly Trp Gly Asp Cys Val Trp Leu Pro Tyr Leu Tyr Thr Leu
 305 310 315 320
 Gln Gly Leu Tyr Leu Val Tyr His Pro Val Gln Leu Ser Thr Pro His
 325 330 335
 Ala Val Gly Val Leu Leu Leu Gly Leu Val Gly Tyr Tyr Ile Phe Arg
 340 345 350
 Val Ala Asn His Gln Lys Asp Leu Phe Arg Arg Thr Asp Gly Arg Cys
 355 360 365
 Leu Ile Trp Gly Arg Lys Pro Lys Val Ile Glu Cys Ser Tyr Thr Ser
 370 375 380
 Ala Asp Gly Gln Arg His His Ser Lys Leu Leu Val Ser Gly Phe Trp
 385 390 395 400
 Gly Val Ala Arg His Phe Asn Tyr Val Gly Asp Leu Met Gly Ser Leu
 405 410 415
 Ala Tyr Cys Leu Ala Cys Gly Gly Gly His Leu Leu Pro Tyr Phe Tyr
 420 425 430
 Ile Ile Tyr Met Ala Ile Leu Leu Thr His Arg Cys Leu Arg Asp Glu
 435 440 445
 His Arg Cys Ala Ser Lys Tyr Gly Arg Asp Trp Glu Arg Tyr Thr Ala
 450 455 460
 Ala Val Pro Tyr Arg Leu Leu Pro Gly Ile Phe
 465 470 475

<210> 143

<211> 1518

<212> DNA

<213> Homo sapiens

<400> 143

cttccccact ggctcttggt ttatgagttc cccttttaag gatctgttgt gacttaccta 60
 tctgggctag tgacctcaga tgtctcagac tgagcatctt accactgttt ctggttgatc 120
 ccttcactca tggctttaac acatttcac ttcctctcat ctcagagagt acagtcacgg 180

100

```

ggcagagctt gcatagggat ccaggtgtta ctagtcttac tctggagctg gtccaactca 240
gtttcatggc acagaactag attaggtctc cactgcgag tctgttttac tgcttaggga 300
aagccagctt ttctaccac acacgtttag tttgaagagt atctattttt ggaggggtct 360
ttgggaggtt gggcaggtt ctttggatcc cagatacatt tagagctttt tgcattaagt 420
gtgaggaaaa taacttctct ttgatgatgt tgatacacca tgtkkggcacc ytggggcaca 480
gcggttttagc tggggagatt ccatgagaat gaacccaaac tactcttctt tgctagggtc 540
ctttaccac acagaggtga gcctttcagg ttcttcattt tgcttagttt ctcccttgt 600
ccttggcatt taagaggtat ccatgtgtta gccagccaaa gcccctgaa ggagctggct 660
gctttaaagg atttacttgg gaggatgtca aatggctttg ccttctgcag acttcattta 720
ttttaatctt tttatggctc ctttctcttg ctttaaaaca ggattataag cacacagcag 780
gtactgacac ctgaagtctt actaaattcc tgcctcagg ccactctttt tctcctgaaa 840
cctggactcc aattttcaat gacgtttttg ttttctctt tcaagcctaa ctatgggaca 900
gctttacgag aaggaaaaag atgaagatgg attcttatat gtggcctaca gcggagagaa 960
cacttttggc ttctgagggc cattgtctgg ctaggtgcac cgtaactgct tgtgtatctt 1020
gtaaatagcc asccattttc agttattawa ccagaacctc ttmacataga cctattagt 1080
catttgtaac tggatttatt tcttaataata tkggaagggt ttgtttcctt agactagtaa 1140
attatcatac agagttttat tttgagtttt tctttttgtg cattgtctc atgcctgtat 1200
tctccaggaa acttgcctt ctggaaatca tatkgaatga tatttctata tcgaagttag 1260
gtaggtgcgg tattaagtg aaagggaagg tgatgcattt attctgggtt atgcttgaag 1320
tggttagatgg ctaagtatta aaattatcca aattaaatcc ttagcagtca gaacacttgc 1380
ttcactagaa tatgccaaact gccaatcatg ttggactgag ctaatttgtt cctctttctg 1440
aaactattaa ggtaaataat taacaataaa aattctctta taaaggcaaa aaaaaaaaaa 1500
aaaaaaaaa aaaaaaaaaa 1518

```

<210> 144

<211> 55

<212> PRT

<213> Homo sapiens

<400> 144

```

Met Val Leu Thr His Leu His Phe Leu Ser Ser Gln Arg Val Gln Ser
  1              5              10              15

```

```

Arg Gly Arg Ala Cys Ile Gly Ile Gln Val Leu Leu Val Leu Leu Trp
      20              25              30

```

```

Ser Trp Ser Asn Ser Val Ser Trp His Arg Thr Arg Leu Gly Leu His
  35              40              45

```

```

Cys Ala Val Cys Phe Thr Ala
  50              55

```

<210> 145

<211> 2097

<212> DNA

<213> Homo sapiens

<400> 145

```

ctcttgagta cctggggctt gcagatgcat gccaccacac ccggctaatt tttttttttt 60
ttaaatagag atgggggtctt gttctgttgc ccargctggt ctggaactcc tggcttcaat 120
cagtcctccc acctcagctt cccaaagctc tgggattata ggcattgagcc actgtacctg 180
tccacctgag aaattttcta agcctggatt cagtcttatg aaatataata ctttgaaatg 240
cacaataact ttgaaaatga aactcattgc ttttcatttc accaggagt actaactata 300
ataagcttta gagcaaattc tccttagata tgatttttgt tattattaga aacacatact 360
atcttgataa ctaaattttg ccaatcattc ttcttgacta gtggtcttta tatatacata 420
catatatata tatatatata tatatatata tatgaggaat tttccataag tgacttgaaa 480
aatacagaat gcactccatg gtaggtctgt tcagtgttat caggaatact gtttctcatc 540
ttcctttctt ggtgtccctt tgcaggggtt gtggttgcac attatgggtc cgtctggaga 600
caacaaagga agttctctca ttcaactctt cgtcattttg ggttgggaaa acttagcttg 660
gagcccaaga ttattgagga gttcaaatat gtgaaagcag aaatgcaaaa gcacggagaa 720
gaccccttct gccctttctc catcatcagc aatgccgtct ctaacatcat ttgctccttg 780

```


101,

```

tgctttggcc agcgctttga ttacactaat agtgagttca agaaaatgct tggttttatg 840
tcacgaggcc tagaaatctg tctgaacagt caagtcctcc tggtaacat atgcccttgg 900
ctttattacc ttccctttgg accatttaag gaattaagac aaattgaaaa ggatataacc 960
agtttcctta aaaaaatcat caaagaccat caagagtctc tggatagaga gaaccctcag 1020
gacttcctag acatgtacct tctccacatg gaagaggaga ggaaaaataa tagtaacagc 1080
agttttgatg aagagtactt attttatatc attggggatc tctttattgc tgggactgat 1140
accacaacta actccttgct ctggtgcctg ctgtatatgt cgctgaaccc cgatgtataa 1200
gaaaagggtc atgaagaaat tgaaagagtc attggcgcca accgagctcc ttccctcaca 1260
gacaaggccc agatgcccta cacagaagcc accatcatgg aagtgcagag gctaactgtg 1320
gtggtgccgc ttgccattcc tcatatgacc tcagagaaca cagtgcctca agggatatac 1380
attcctaaaag gcacattgat cttacccaac ctgtggtcag tacatagaga cccagccatt 1440
tgggagaaac cggaggattt ctacccta atgaccttctg atgaccaagg acaactaatt 1500
aaaaaagaaa cctttattcc ttttgggata ggaagcggg tgtgtatggg agaacaactg 1560
gcaaagatgg aattattcct aatgtttgtg agcctaattg agagtctcgc atttgcttta 1620
cctgaggatt ctaagaagcc cctcctgast ggaagatttg gtctaacttt agccccacat 1680
ccatttaata taactatttc aaggagatga agagcatctc caagaagaga tggtaaaaag 1740
atatataaat acatatcctt ctaagcagat tcttctact gcaaaggaca gtgaatccag 1800
caactcagtg gatccaagct gggctcagag gtcggaagga gggtagagca cactgggagg 1860
tttcatcttg gaggattcct cagcaggata cttcagccat tttagtaatg caggtctgtg 1920
atttggggga tagaaaacaa agtacctatg aaacgggata tctggatttt acttgcagtg 1980
gcttccaccg atgggccaat cttctcattt cttagtgcct cagacatccc atatgtaaaa 2040
tgagagtaat aaaacttggc ttctctctac ctctcagcac taaaaaaaaa aaaaaaa 2097

```

<210> 146

<211> 398

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (379)

<400> 146

```

Val Leu Ser Gly Ile Leu Phe Leu Ile Phe Leu Ser Trp Cys Pro Phe
  1             5             10             15

```

```

Ala Gly Val Val Phe Ala His Tyr Gly Pro Val Trp Arg Gln Gln Arg
  20             25             30

```

```

Lys Phe Ser His Ser Thr Leu Arg His Phe Gly Leu Gly Lys Leu Ser
  35             40             45

```

```

Leu Glu Pro Lys Ile Ile Glu Glu Phe Lys Tyr Val Lys Ala Glu Met
  50             55             60

```

```

Gln Lys His Gly Glu Asp Pro Phe Cys Pro Phe Ser Ile Ile Ser Asn
  65             70             75             80

```

```

Ala Val Ser Asn Ile Ile Cys Ser Leu Cys Phe Gly Gln Arg Phe Asp
  85             90             95

```

```

Tyr Thr Asn Ser Glu Phe Lys Lys Met Leu Gly Phe Met Ser Arg Gly
 100             105             110

```

```

Leu Glu Ile Cys Leu Asn Ser Gln Val Leu Leu Val Asn Ile Cys Pro
 115             120             125

```

```

Trp Leu Tyr Tyr Leu Pro Phe Gly Pro Phe Lys Glu Leu Arg Gln Ile
 130             135             140

```

```

Glu Lys Asp Ile Thr Ser Phe Leu Lys Lys Ile Ile Lys Asp His Gln
 145             150             155             160

```

102

Glu Ser Leu Asp Arg Glu Asn Pro Gln Asp Phe Ile Asp Met Tyr Leu
 165 170 175
 Leu His Met Glu Glu Glu Arg Lys Asn Asn Ser Asn Ser Ser Phe Asp
 180 185 190
 Glu Glu Tyr Leu Phe Tyr Ile Ile Gly Asp Leu Phe Ile Ala Gly Thr
 195 200 205
 Asp Thr Thr Thr Asn Ser Leu Leu Trp Cys Leu Leu Tyr Met Ser Leu
 210 215 220
 Asn Pro Asp Val Gln Glu Lys Val His Glu Glu Ile Glu Arg Val Ile
 225 230 235 240
 Gly Ala Asn Arg Ala Pro Ser Leu Thr Asp Lys Ala Gln Met Pro Tyr
 245 250 255
 Thr Glu Ala Thr Ile Met Glu Val Gln Arg Leu Thr Val Val Val Pro
 260 265 270
 Leu Ala Ile Pro His Met Thr Ser Glu Asn Thr Val Leu Gln Gly Tyr
 275 280 285
 Thr Ile Pro Lys Gly Thr Leu Ile Leu Pro Asn Leu Trp Ser Val His
 290 295 300
 Arg Asp Pro Ala Ile Trp Glu Lys Pro Glu Asp Phe Tyr Pro Asn Arg
 305 310 315 320
 Phe Leu Asp Asp Gln Gly Gln Leu Ile Lys Lys Glu Thr Phe Ile Pro
 325 330 335
 Phe Gly Ile Gly Lys Arg Val Cys Met Gly Glu Gln Leu Ala Lys Met
 340 345 350
 Glu Leu Phe Leu Met Phe Val Ser Leu Met Gln Ser Phe Ala Phe Ala
 355 360 365
 Leu Pro Glu Asp Ser Lys Lys Pro Leu Leu Xaa Gly Arg Phe Gly Leu
 370 375 380
 Thr Leu Ala Pro His Pro Phe Asn Ile Thr Ile Ser Arg Arg
 385 390 395

<210> 147

<211> 2504

<212> DNA

<213> Homo sapiens

<400> 147

gtcactgtga gtggagccca tgctgggctc tgtgccctct gtgtctgtgc atgcgcgtgt 60
 gtgtgtgggc gtgtgtgcat tgctgggcca gcttgaaggg aaggcccgtc atgtccctgc 120
 actctgtttt gcaagatgcc aaaccccagt tctgatgggg ctccaacagc caggctgtgg 180
 tcctttgacg ttcttcacct gttgccaacc tatcccgtag tgaactgaaa ccccaatgaa 240
 gacagaactg tgcctgggga gatgcaatga ggtgagggct gaactcatcc ttttatattt 300
 cttttcaaga ttggatcaga gctcatctcc atccagtcct gtttctatga aggcttcaat 360
 ctgtttccat gcaaatgtgc taatcagagc ccagagctgc tgggtccctc atctccctca 420
 tctattatag attgacttac agcagggaga gaatctcttt agctcattcc taatgggggt 480
 gggatcacia tatgggtctg tccaatctgc atcttggtgt gtcccaagac cctatctcct 540

103

```

ccccaacatt cttattgcct ttggctccca gtaaggaacg aattgggggc cagggaggag 600
aacagggggg atcaagaagg gaaacccaat tccccctttg aaagtgggtt ctttgaacta 660
tgtgtttggg ggaagtccct ctggatacta atttgaattt atataacctca tgttttgggg 720
gtttgacctt tataatatata tatatatata tatgcatata tatttcataa tatttggaag 780
gtttttgatg ctagaaaaat ggaaacaaga gaaccttcaa aaatgggtact tagatgggaa 840
ctggaggcca atctttcata aagccagccc catagetgct tgcgtgtagg cctccagcca 900
ttttgacatt ggggtggata gtcgattcac ctgcctgtca gtcgattcac ctgcctgtca 960
cccagttctg tggatgtgct ggtgctgagc ctttgcctctc tttccaaatg gttacaggga 1020
tgttgatcag ctccaccaga gggagctctg atgggaggaa ttgctctgcc atccttgtcc 1080
ctgtgtctcc tgcggcagg cagccattgt atctcaccag cagaccagga gactgggtccc 1140
aaggttactg caccacaggg caatttcctg ccatagttag gaaggaaaca cctgaactaa 1200
atggaagaga catccctgcg gtgtttaata tcacacccat gccctttgtc aggttaccat 1260
gtacagagat tacttggaga gcctcatgcc gtctctacct tcgcacactg gtcaagtatc 1320
tgctgagctt cttggccgca aggatgcaga aataggctga gggccatgg gaagaaagac 1380
acaatgaggg agtaggaggt gggaagaaaa gaagacagac tttcaaaatg gaattaggca 1440
ctggggagag atcagtttcc ccacatcagg gagaagaagg tatagggtgg gaagggggtg 1500
gccaggagca gaaggaagaa gactcaagat ggaaaggagg ccgctgtgcc tgtggcaata 1560
ccacttggag aggtcgactt cataccttca agccttttcc cctgggcttt tgatttgtgc 1620
tgtgccccct ttcttgtcct ctctgcagat gccagtagg ggctacctca tcctcgtgct 1680
gttcttgtgt ggctttctgg gcagtaggga tcttgaattt cttttctaac actgtgcccg 1740
gcaaggcggg gagcattcct ctgccctttg tcttgtgcca acctggaaag gtgcagtcta 1800
gatttcagt agaaccctgc cagctgagcc ctgtgcatct actacctga cacagagtgt 1860
tttcccacta gaagctctgc tctgctctcc tggcccaagt aggggattcc atgccttccc 1920
tttcatggtc ttagcaccag cagcctagtt tctcccttcc agagtctcca gggatgacaa 1980
attggattgg agacaaacct cgtcagatgc tcatcccta aaaggttaat tgtgtatttg 2040
tggctgcgtg tgcctttgtg ttttcattct cttcccattt ttgtacattt tggctctctc 2100
tgtggtttta tacttgggtca aaagtactcg tcttggtatt gcactgttgt gtgcatgaga 2160
aaactggggg aaggctcact ggtacaagaa aggacccctg acccctttcc ttctctgtgg 2220
tccccggcat tagattgggg gttctgggag aggcagggtga atgtcctaag tgaattgttc 2280
tgtttgtaac tggaaatgtt ttgaagtctt tgggtgtgct ccgtgaaagg acatgccac 2340
ctggtgctca tgaggtgtct ttgcagaaca ataatggga aatgaacaac ccccccaaa 2400
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2460
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 2504

```

<210> 148

<211> 66

<212> PRT

<213> Homo sapiens

<400> 148

```

Met Glu Arg Glu Pro Leu Cys Leu Trp Gln Tyr His Leu Glu Arg Ser
  1      5      10      15

```

```

Thr Ser Tyr Leu Gln Ala Phe Ser Pro Gly Leu Leu Ile Val Ser Val
  20      25      30

```

```

Pro Pro Phe Leu Ser Ser Leu Gln Met Pro Ser Arg Gly Tyr Leu Ile
  35      40      45

```

```

Leu Val Leu Phe Leu Cys Gly Phe Leu Gly Ser Arg Asp Leu Glu Phe
  50      55      60

```

```

Pro Phe
  65

```

<210> 149

<211> 928

<212> DNA

<213> Homo sapiens

<400> 149

104

```

caagaccagt cttgccaaca taacaagaat ctgtctctat ataagaagat taagaattgg 60
ctgggcatgg tggcatgtgc ttgtggccct agctacttgg gaggctgcgg tggaaggatc 120
acttgggccc aggcattcca gcttatgatt tcagtgaagt atgacacaa cactgaattc 180
caacctaata gatggagaga gactatgtct ctaaaaataa aaaataaaga gattaggaac 240
tgtctgcact aagatgactt tactattcca agaaatcctt gcctaagaaa gtaaagttga 300
aattactttt ttgtcctgga aactttccga tctatgtatc tgtactcata cagcctcatc 360
gggctaaaca gccttctttt cagaacagta gatcactcaa ctgggttttc aagtgaactgt 420
ttacctttca aggctggcct tataggtcct gcctcactgt atccagcaat ccaaacttta 480
ccctatccca gtcaggactg cacacctcat gttgaaagac ataccttaga accagactcc 540
ccaaagctta caaatatccc acccttgact cccttttctg aggctactaa gattatgtga 600
agacagtcac cttccttact gcagtgaagc ataaacttgg tttttgttca tcagtaaacc 660
atthttgggg tttctggagg agccagcagt tggcaatggg tataaatcta aatctaaaag 720
ccatttataa aagactgatg aatctagtaa cataaaaaata aactgcatga taaatatcat 780
aaacaaagtc aaaagacaac tgacaaccag gttaaaaaca tgctttcaac atatattaca 840
ggaaaagggc taatatctct aatatgtaaa taattgttag aaattaagag atcaagcacc 900
aagcacccat tagaaaaaaa aaaaaaaa 928

```

<210> 150

<211> 88

<212> PRT

<213> Homo sapiens

<400> 150

```

Met Tyr Leu Tyr Ser Tyr Ser Leu Ile Gly Leu Asn Ser Leu Leu Phe
  1             5             10             15

```

```

Arg Thr Val Asp His Ser Thr Gly Phe Ser Ser Asp Cys Leu Pro Phe
      20             25             30

```

```

Lys Ala Gly Phe Ile Gly Leu Ala Ser Leu Tyr Pro Ala Ile Gln Thr
    35             40             45

```

```

Leu Pro Tyr Pro Ser Gln Asp Cys Thr Pro His Val Glu Arg His Thr
    50 *           55             60

```

```

Leu Glu Pro Asp Ser Pro Lys Leu Thr Asn Ile Pro Pro Leu Thr Pro
    65             70             75             80

```

```

Phe Ser Glu Ala Thr Lys Ile Met
      85

```

<210> 151

<211> 1343

<212> DNA

<213> Homo sapiens

<400> 151

```

ccgagccagg gttccctgcc ggcccttgag atggcgggac ttcccacgtc tggagccgag 60
gcctggataa ttcggaattg gcaagggaac catcttggtc gtttgccatt tttcggcttt 120
ggggagtggt tgcgtttctt ctccgttttg cagtgaacaa catctcagaa aggtggagct 180
gatcagaata atgttcagca tcaacccctt ggagaacctg aaggtgtaca tcagcagtcg 240
gcctccccctg gtggtcttca tgatcagcgt aagcgccatg gccatagctt tcctgaccct 300
gggctacttc ttcaaaatca aggagattaa atccccagaa atggcagagg attggaatac 360
ttttctgcta cggttcaatg atttggactt gtgtgtatca gagaatgaaa ccctcaagca 420
tctcacaaac gacaccacaa ctccggaaag tacaatgacc agcgggcagg cccgagcttc 480
caccagatcc cccaggccc tggaggactc gggcccgggt aatatctcag tctcaatcac 540
cctaaccctg gaccactga aacccttcgg agggattcc cgcaacgtca cccatctgta 600
ctcaaccatc ttagggcac agattggact ttcaggcagg gaagcccacg aggagataaa 660
catcaccttc accctgccta cagcgtggag ctcatatgac tgcgccctcc acggctactg 720
tgagcaggtg gtattcacag cctgcatgac cctcacggcc agccctgggg tgttccccgt 780
cactgtacag ccaccgcact gtgttcctga cacgtacagc aacgccacgc tctggtacaa 840

```

105,

gatcttcaca actgccagag atgccaacac aaaatacgcc caagattaca atccttttctg 900
 gtgttataag ggggccattg gaaaagtcta tcatgcttta aatcccaagc ttacagtgat 960
 tgttccagat gatgaccgtt cattaataaa tttgcatctc atgcacacca gttacttcct 1020

ctttgtgatg gtgataacaa tgttttgcta tgctgttatac aagggcagac ctaccaaatt 1080
 gcgtcagagc aatcctgaat tttgtccga gaaggtggct ttggctgaag cctaattcca 1140
 cagctccttg ttttttgaga gagactgaga gaaccataat ccttgccctgc tgaaccagc 1200
 ctgggcctgg atgctctgtg aatacattat cttgcgatgt tgggttattc cagccaaaga 1260
 catttcaagt gcctgtaact gatttgtaca tatttataaa aatctattcg gaaaaaaaaa 1320
 aaaaaaaaaa aaaaaaaaaa aaa 1343

<210> 152

<211> 314

<212> PRT

<213> Homo sapiens

<400> 152

Met Phe Ser Ile Asn Pro Leu Glu Asn Leu Lys Val Tyr Ile Ser Ser
 1 5 10 15

Arg Pro Pro Leu Val Val Phe Met Ile Ser Val Ser Ala Met Ala Ile
 20 25 30

Ala Phe Leu Thr Leu Gly Tyr Phe Phe Lys Ile Lys Glu Ile Lys Ser
 35 40 45

Pro Glu Met Ala Glu Asp Trp Asn Thr Phe Leu Leu Arg Phe Asn Asp
 50 55 60

Leu Asp Leu Cys Val Ser Glu Asn Glu Thr Leu Lys His Leu Thr Asn
 65 70 75 80

Asp Thr Thr Thr Pro Glu Ser Thr Met Thr Ser Gly Gln Ala Arg Ala
 85 90 95

Ser Thr Gln Ser Pro Gln Ala Leu Glu Asp Ser Gly Pro Val Asn Ile
 100 105 110

Ser Val Ser Ile Thr Leu Thr Leu Asp Pro Leu Lys Pro Phe Gly Gly
 115 120 125

Tyr Ser Arg Asn Val Thr His Leu Tyr Ser Thr Ile Leu Gly His Gln
 130 135 140

Ile Gly Leu Ser Gly Arg Glu Ala His Glu Glu Ile Asn Ile Thr Phe
 145 150 155 160

Thr Leu Pro Thr Ala Trp Ser Ser Asp Asp Cys Ala Leu His Gly His
 165 170 175

Cys Glu Gln Val Val Phe Thr Ala Cys Met Thr Leu Thr Ala Ser Pro
 180 185 190

Gly Val Phe Pro Val Thr Val Gln Pro Pro His Cys Val Pro Asp Thr
 195 200 205

Tyr Ser Asn Ala Thr Leu Trp Tyr Lys Ile Phe Thr Thr Ala Arg Asp
 210 215 220

Ala Asn Thr Lys Tyr Ala Gln Asp Tyr Asn Pro Phe Trp Cys Tyr Lys
 225 230 235 240

106,

Gly Ala Ile Gly Lys Val Tyr His Ala Leu Asn Pro Lys Leu Thr Val
 245 250 255

Ile Val Pro Asp Asp Arg Ser Leu Ile Asn Leu His Leu Met His
 260 265 270

Thr Ser Tyr Phe Leu Phe Val Met Val Ile Thr Met Phe Cys Tyr Ala
 275 280 285

Val Ile Lys Gly Arg Pro Ser Lys Leu Arg Gln Ser Asn Pro Glu Phe
 290 295 300

Cys Pro Glu Lys Val Ala Leu Ala Glu Ala
 305 310

<210> 153

<211> 3343

<212> DNA

<213> Homo sapiens

<400> 153

```

tccgcgcgcg gggccgcggg cggagctgcc tgccgggtccc gcgcgcgcgcg tccgcactcc 60
tcggccctcg ggcgggtcgat gggacggggc gccgcggagc aggaggcggc gcccgctcggg 120
gtgctcgggc cgcgcgggag cccactgtgg ggctcgggca tggcgggccc caggacctga 180
gctctcctca ggggagcggg gaggcagctg ctggccggcg atggggacgg agtggggccg 240
tcgcgcgcgc gccgagccgt gagcgcgcgag ccaccgcgcg cgctacctca gcccttcgcg 300
aagcgcgcgg cagctcggga acatggccct ggagcggctc tgctcgggtcc tcaaagtgtt 360
gttaataaca gtactggtag tggaagggat tgccgtggcc caaaaaaacc caagatggac 420
aaaatattgg aatcaagcat attcctgcaa ccagtggtg catttgggtt cgaaccagca 480
atggagggtca ttttgcttcg ccaaattatc ctgactcata tccaccaaac aaggagtgtg 540
tctacatttt ggaagctgct ccacgtcaaa gaatagagtt gacctttgat gaacattatt 600
atatagaacc atcatttgag tgtcggtttg atcacttggg agttcgagat gggccatttg 660
gtttctctcc tcttatagat cgttactgtg gcgtgaaaag cctccatta attagatcaa 720
cagggagatt catgtggatt aagtttagtt ctgatgaaga gcttgaagga ctgggatttc 780
gagcaaaata ttcattttatt ccagatccag actttactta cctaggagggt attttaaattc 840
ccattccaga ttgtcagttc gagctctcgg gagctgatgg aatagtgcgc tctagtccagg 900
tagaacaaga ggagaaaaca aaaccaggcc acccggttga ttgcatctgg accattaaag 960
ccactccaaa agctaagatt tatttgaggt tcctagatta tcaaatggag cactcaaattg 1020
aatgcaagag aaacttcggt gcagttctatg atggaagcag ttctattgaa aacctgaagg 1080
ccaagttttg cagcaactgtg gccaatgatg taatgcttaa aacagggaatt ggagtgattc 1140
gaatgtgggc agatgaaggat agtcggctta gcaggtttcg aatgctcttt acttctcttg 1200
tgagcctcc ctgcacaagc agcactttct tttgccatag caacatgtgc atcaataatt 1260
cttttagtctg taatggtgtc caaaattgtg catacccttg ggatgaaaat cattgtaaag 1320
aaaagaaaaa agcaggagta tttgaacaaa tcactaagac tcatggaaca attattggca 1380
ttacttcagg gattgtcttg gtcccttctca ttatttctat tttagtacaa gtgaaacagc 1440
ctcgaaaaaa ggtcatggct tgcaaaaccg cttttaataa aaccgggttc caagaagtgt 1500
ttgatcctcc tcattatgaa ctgttttcac taagggacaa agagatttct gcagacctgg 1560
cagacttgct ggaagaattg gacaactacc agaagatgcg gcgctcctcc accgcctccc 1620
gctgcaccca cgaccaccac tgtgggtcgc aggcctccag cgtcaaacaa agcaggacca 1680
acctcagttc catggaactt cttttccgaa atgactttgc acaaccacag ccaatgaaaa 1740
catttaatat caccttcaag aaaagtagtt acactttcaa acagggacat gagtgccttg 1800
agcaggccct ggaagaccga gtaatggagg agattccctg tgaaatttat gtcagggggc 1860
gagaagattc tgcacaagca tccatatcca ttgacttcta atcttctgct aatggtgatg 1920
tgaattctta ggggtgtgtac gtacgcagcc tccagggcac catactgttt ccagcagcca 1980
acctttttct cccatcacia ctacgaagac cttgatttac cgtaaacctt ttgtatgggtg 2040
atgtttttat tctctcaggc agtctatata tgttaaacca atcaaggaac ttactctatt 2100
cagtggaaac aataatcatc tctattgctt ggtgtcattt ataggaagca ctgccagtta 2160
aagagcatta gaagaggtgg ttggatggag ccaggctcag gctgcctctt cgtttttagca 2220
acaagaagac tgctcttgac tgataacagc tctgtcaata ttttgatgcc acaataaaact 2280
tgatttttct ttacattcct tttatttttc ctttctctaa atttaatttg ttttataagc 2340
ctatcgtttt accatttcat tttcttacat aagtacaagt ggtaaatgta ccacatactt 2400

```

107.

```

cagtataggc atttgttctt gagtgtgtca aaatacagct agttactgtg ccaattaaga 2460
cccagttgta tttcacccat ctgtttcttc ttggctaata tctgtacttc tgcccttttaa 2520
ttactgggcc cttattcctt attttctgtg agaaataata gatgatatga tttattacct 2580
ttcaattata tttttctcag ttataactaga aaatttcata atcctgggat atatgtacca 2640
ttgtcagcta tgactaaaaa tttgaaaaag ataaaaatth ctagcaagcc tttgaagttt 2700
accaagtata gtcacattca gtgacagccc attcattcca gtaaagaatc atttcattca 2760
ctttgggaga ggcctataat wacatttatt tgcaatgttt ctcttcgcta gattgtwaca 2820
tagctcccat tctgttgggt ttgcttacag catatggtaa ccaagggttag atgccagtta 2880
aaattcctta gaaattggat gagccttgag attgcttctt aactgggaca tgacattttt 2940
ctagctctta tcaagaataa caacttcacac ttttttttaa actgcacttt tgactttttt 3000
tatggataaa aaacaataat ttataaacat aaaagctcat tgtgtttttt agacttttga 3060
tattatttga tactgtacaa actttattaa atcaagatga aagacctaca ggacagattc 3120
ctttcagtgt tcacatcagt ggctttgtat gcaaataatgc tgtgttggac ctggacgcta 3180
taacttattg taaagacctt ggaaatgtgg acataagctc tttctttcct tttgttactg 3240
tatttagttt gtgataaatt tttcactgtg tgatattht gctctaaatc actacacaaa 3300
tcccatatta aaatatacat tgtacctgaa aaaaaaaaaa aaa 3343

```

<210> 154

<211> 389

<212> PRT

<213> Homo sapiens

<400> 154

```

Met Trp Ile Lys Phe Ser Ser Asp Glu Glu Leu Glu Gly Leu Gly Phe
  1             5             10             15

Arg Ala Lys Tyr Ser Phe Ile Pro Asp Pro Asp Phe Thr Tyr Leu Gly
      20             25             30

Gly Ile Leu Asn Pro Ile Pro Asp Cys Gln Phe Glu Leu Ser Gly Ala
  35             40             45

Asp Gly Ile Val Arg Ser Ser Gln Val Glu Gln Glu Glu Lys Thr Lys
  50             55             60

Pro Gly Gln Ala Val Asp Cys Ile Trp Thr Ile Lys Ala Thr Pro Lys
  65             70             75             80

Ala Lys Ile Tyr Leu Arg Phe Leu Asp Tyr Gln Met Glu His Ser Asn
      85             90             95

Glu Cys Lys Arg Asn Phe Val Ala Val Tyr Asp Gly Ser Ser Ser Ile
  100             105             110

Glu Asn Leu Lys Ala Lys Phe Cys Ser Thr Val Ala Asn Asp Val Met
  115             120             125

Leu Lys Thr Gly Ile Gly Val Ile Arg Met Trp Ala Asp Glu Gly Ser
  130             135             140

Arg Leu Ser Arg Phe Arg Met Leu Phe Thr Ser Phe Val Glu Pro Pro
  145             150             155             160

Cys Thr Ser Ser Thr Phe Phe Cys His Ser Asn Met Cys Ile Asn Asn
      165             170             175

Ser Leu Val Cys Asn Gly Val Gln Asn Cys Ala Tyr Pro Trp Asp Glu
      180             185             190

Asn His Cys Lys Glu Lys Lys Lys Ala Gly Val Phe Glu Gln Ile Thr
  195             200             205

```

108,

Lys Thr His Gly Thr Ile Ile Gly Ile Thr Ser Gly Ile Val Leu Val
 210 215 220
 Leu Leu Ile Ile Ser Ile Leu Val Gln Val Lys Gln Pro Arg Lys Lys
 225 230 235 240
 Val Met Ala Cys Lys Thr Ala Phe Asn Lys Thr Gly Phe Gln Glu Val
 245 250 255
 Phe Asp Pro Pro His Tyr Glu Leu Phe Ser Leu Arg Asp Lys Glu Ile
 260 265 270
 Ser Ala Asp Leu Ala Asp Leu Ser Glu Glu Leu Asp Asn Tyr Gln Lys
 275 280 285
 Met Arg Arg Ser Ser Thr Ala Ser Arg Cys Ile His Asp His His Cys
 290 295 300
 Gly Ser Gln Ala Ser Ser Val Lys Gln Ser Arg Thr Asn Leu Ser Ser
 305 310 315 320
 Met Glu Leu Pro Phe Arg Asn Asp Phe Ala Gln Pro Gln Pro Met Lys
 325 330 335
 Thr Phe Asn Ser Thr Phe Lys Lys Ser Ser Tyr Thr Phe Lys Gln Gly
 340 345 350
 His Glu Cys Pro Glu Gln Ala Leu Glu Asp Arg Val Met Glu Glu Ile
 355 360 365
 Pro Cys Glu Ile Tyr Val Arg Gly Arg Glu Asp Ser Ala Gln Ala Ser
 370 375 380
 Ile Ser Ile Asp Phe
 385

<210> 155
 <211> 2991
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (1270)

<220>
 <221> unsure
 <222> (2613)

<400> 155
 ggcattggcta ttgcaccttg ggagaagcct ttaatcggtt agacttctca agtgcaattc 60
 aagatatccg aaggttcaat tatgtggtca aactgttgca gctaattgca aaatcccagt 120
 taacttcatt gagtggcgtg gcacagaaga attacttcaa cattttggat aaaatcgttc 180
 aaaagggttct ttgattaagc gaggattgtg gtgggtcatca agaacctttt cccgattgaa 240
 ttctagacct gcggggtagt tgcctttggc caaaccaagg acatcatcag gcagatcctg 300
 caggctgatg gacttcgcgg cttctatoga ggctatgtgg cttcactgct tacctatata 360
 ccaaacagtg ctgtctggtg gcccttctat cacttctatg cagggttgagg gcaagaactc 420
 catcatcctg accttcagac agctgatggc agaagaaggg ccttggggcc tcatgaaagg 480
 cctctcggcc agaatcatct cagccacacc ttccaccatt gtcattgtgg tgggctatga 540
 gagcctcaag aaactcagcc tccgacctga gctggtggac tcgagacact ggtaaccagt 600
 ggtggggaga gaagcctgct gttttccaca ctaccgtggg tcaggggagc agtggagagg 660

109,

```

acagcaccct ctccaggtgc tcccaccaca caccagccc tgccctgggc caagtggcct 720
atctgggata gggatagaga ctttgaactg ctcttgctga agaggctcca cgcctggatc 780
ccttgccccc actatattaa attctcttct gagctgggct ccctcactca gtccctgtat 840
ttgatactgg cctaaagacc ccacccccca ccttgccagc ccttcttctg gcttcccctt 900
ccatctgtgt ccttgagacc ctgagaagag ctgtacatag agcttgctta ctaccactgg 960
ttcttctctt tgggctttca gcccagactc caagcagctg ctatcaaccc tctctccctt 1020
catctcttag ccttgcttat ttttattttg ggaccgagct gccactaga tgactctgct 1080
tttccctgca tttggggcta aggtgccagg tacttatttg cacagggagc aggagcagca 1140
aaaaatctct ggttctccag agcactcgtc ctctcttttg aggggttatt aggttgggag 1200
aaatgttgat acttttgttt tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg 1260
tgtgtgtttn aacatctgtg aaccaggcta ttagtcctgc taaagcgcca atcctgctgt 1320
cagagctcac ccccttccca agacaggtag aaaaatgtaa ttagctttt tccacaagcc 1380
acttccctgt cccttcagtc tcaggagccc taggagagtc taagctgggg catcccctgg 1440
cccagaggac tcccgtgggt ggcacagttc taagtggatc aggcctgtctt ggggtgactg 1500
gacttggagc actaccttga gaagtcaggt tgagaaagta gttgatctag aaggcaacaa 1560
gtgggcatgt gttccccagc acattaccca ggccagcaga gccaaaccta ggagagggca 1620
gtgggtagat tctctgcccc aggcagccat gacatacaca taaatacccc aatcactcag 1680
acttacggca acaagtgttg tctcactatg gtgatctcta agatccacat cactggatgc 1740
gtagtcatcc cagtcattgt accctgtgga ggaatgctgg aagaacataa agagcagttc 1800
agaaagtcac ccaataccag gaccactgca tttaccagcc tgatactgcc aagattatct 1860
gatgctctcc tcaggagcta ggagaggagt gctccttccct ccctaccgct actctcccca 1920
agcctgtgtt gcaggtagag aggtgcagca aatagagaag gcatgtcaaa ccctgcattt 1980
ctacctgaga cgtgtgacct ggatgatcct ccaaacccta ttggtcccac cccctgggaa 2040
aggccatggt gccagtttga aaggtgctag ctacctgaag ccttgatatt tcttcatggg 2100
tgccgcacat tcttccacct tggccagaac aggttctgaa aaccacttct ctaccttcac 2160
caccaccact gcccatcttg atctctttga gggttttccc atttacttg atcttatttt 2220
ggtttatccc ttctgcact ttgtcaagag agtcctccag tttctatcca ggaatgttca 2280
catccaaagg gttggaccca cggatcatc tgaatcttcc tgcccctcct cagtgcctaa 2340
ccctgagaac cacaaatata atggaagcag ttccccccac cctcacccca tctctttaag 2400
ctcatcctag caagacctct agagacccta gagactcgac ttagtcctt ccccgccatg 2460
gcacagtggg gaaggtgtca atggggagtg tcacggacag gaggtaggat cctgccgctc 2520
gcgtcttagt gtttctccct caagactttc cttctgtttt gttgtcttgt gtagtatttt 2580
acagccctc ttgtgttttt ctttatttct cgnacacaca cgcagtttta aggggtgatgt 2640
gtgtataatt aaaaggaccc ttggcccata ctttctaat tctttaggga ctgggattgg 2700
gtttgactga aatatgtttt ggtggggatg ggacggtgga cttccattct ccctaaactg 2760
gagttttggt cggtaataca aactaaaaga aacctctggg agactggaaa cctgattgga 2820
gcactgagga acaagggaat gaaaaggcag actctctgaa cgtttgatga aatggactct 2880
tgtgaaaatt aacagtgaat attcactgtt gcactgtacg aagtctctga aatgtaatta 2940
aaagttttta ttgagccccc gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2991

```

<210> 156

<211> 95

<212> PRT

<213> Homo sapiens

<400> 156

```

Met Asp Phe Ala Ala Ser Ile Glu Ala Met Trp Leu His Cys Leu Pro
  1             5             10             15

```

```

Ile Ser Gln Thr Val Leu Ser Gly Gly Pro Ser Ile Thr Ser Met Gln
  20             25             30

```

```

Val Glu Gly Lys Asn Ser Ile Ile Leu Thr Phe Arg Gln Leu Met Ala
  35             40             45

```

```

Glu Glu Gly Pro Trp Gly Leu Met Lys Gly Leu Ser Ala Arg Ile Ile
  50             55             60

```

```

Ser Ala Thr Pro Ser Thr Ile Val Ile Val Val Gly Tyr Glu Ser Leu
  65             70             75             80

```

110,

Lys Lys Leu Ser Leu Arg Pro Glu Leu Val Asp Ser Arg His Trp
 85 90 95

<210> 157
 <211> 2293
 <212> DNA
 <213> Homo sapiens

<400> 157
 cacctgtctgc ccaccacccc ggcagcacct ttccctgccc aggettccaga gtgccctgtt 60
 gctgtgtgcca ctgcccccca cactccaggg ccatgtcaga gctcccatct accctccacc 120
 agcatgccgc tcctgaagat gccccacca ttctcggggt gcagccaccc ctgcagcggg 180
 cactgtgggtg ggcactgcag tgggcctctc ctccacccc cgagctctca gccactccct 240
 agcactcaca gggatcccgg gtgcaagggg cacaagtttg cacacagtgg cctggcttgc 300
 cagctgcccc agccctgcga ggcagatgag gggctgggtg aggaagagga tagcagctct 360
 gagcgaagct cctgcacctc atcctccacc caccagagag atgggaagtt ctgtgactgc 420
 tgctactgtg agttcttcgg ccacaatgcg ccaccgctg ccccgacgag tcggaactat 480
 accgagatcc gggagaagct ccgctcgagg ctgaccaggc ggaaagagga gctgcccattg 540
 aaggggggca ccttgggagg gatccctggg gagcccgccg tggaccaccg agatgtggat 600
 gagctgtctg aattcatcaa cagcacggag cccaaagtcc ccaacagcgc cagggccgccc 660
 aagcggggccc ggcacaagct gaaaaagaag gaaaaggaga agggccagtt ggcagcagaa 720
 gctctaaagc aggcaaactg tgtttctgga agccgggagc caaggcctgc cagggagagg 780
 ctcttgagggt gggccgaccg ggaactggat cgggtcaaca gcttctgag cagccgtctg 840
 caggagatca aaaacactgt caaagactcc atccgtgcca gcttcagtgt gtgtgagctc 900
 agcatggaca gcaatggctt ctctaaggag ggggctgctg agcctgagcc tcagagtcta 960
 cccccctcaa acctcagtkg ctctcagag cagcagcctg acatcaacct tgacctgtcc 1020
 cctttgactt tgggctcccc tcagaaccac acgttacaag ctccaggcga gccagcccca 1080
 ccatgggcag aaatgagagg cccccacca ccatggacag aggtgagggg gccccctccc 1140
 ggtatcgctc ccgagaacgg gctcgtgagg agactcaaca ccgtgcccga cctatcccgg 1200
 gtgatctggg tcaagacacc caagccgggc taccacagct ccgaggagcc aagctcaaag 1260
 gaagttccca gttgcaagca ggagctgcct gagcctgtgt cctcaggtgg gaagccacag 1320
 aagggcaaga ggcagggcag tcaggccaag aagagcgagg caagcccagc cccccggccc 1380
 ccagccagcc tagagggttc cagtgccaa ggcaggtcg ctggcccca gacccaggc 1440
 agggctcctag agcttcccaa agtaggcagc tgtgctgagg ctggagaggg gagccggggg 1500
 agccggccag gaccaggttg ggctggcagt cccaaaactg agaaggagaa gggcagctcc 1560
 tggcgaaact ggccaggcga ggccaaggca cggcctcagg agcaggagtc tgtgcagccc 1620
 ccaggccca gaggccaca gagcttgccc cagggcaagg gccgcagccg ccggagccgc 1680
 aacaagcagg agaagccagc ctctccttg gacgatgtgt tcctgcccga ggacatggac 1740
 ggggtggaga tggatgagac tgaccgagag gtggagtact ttaagaggtt ctgtttggat 1800
 tctgcaaagc agactcgtca gaaagttgct gtgaactgga ccaacttcag cctcaagaaa 1860
 accactccta gcacagctca gtgaggccct gccaggctg agctgcttca gggcatcctg 1920
 aggccctgac tgccagctga aggcgtataa tttttccctc cgtgtgcccc acmtaccctg 1980
 ccaagaccct ctgtgtctcc caccatcctg gaccaaccaa aagctgaacg gatgccacac 2040
 tgtgtggtggg ccccttgacc tcagcagagc cgcttcctgg tgctacgcag cctccacact 2100
 cagagcccgt ggactgggct ggcctaaggg ccagggtga tggtagtgc ggcccaacac 2160
 tgctctcttt gtgtttggtt tttttgtttt tgtttttttt ccaattcttt 2220
 acttttgata ctgtgaagat ctttcgtgcc gaaagataaa gcaacatttg gacacagaaa 2280
 aaaaaaaaaaaa aaa 2293

<210> 158
 <211> 586
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (286)

<400> 158
 Met Pro Leu Leu Lys Met Pro Pro Pro Phe Ser Gly Cys Ser His Pro
 1 5 10 15

111.

Cys Ser Gly His Cys Gly Gly His Cys Ser Gly Pro Leu Leu Pro Pro
 20 25 30
 Pro Ser Ser Gln Pro Leu Pro Ser Thr His Arg Asp Pro Gly Cys Lys
 35 40 45
 Gly His Lys Phe Ala His Ser Gly Leu Ala Cys Gln Leu Pro Gln Pro
 50 55 60
 Cys Glu Ala Asp Glu Gly Leu Gly Glu Glu Glu Asp Ser Ser Ser Glu
 65 70 75 80
 Arg Ser Ser Cys Thr Ser Ser Ser Thr His Gln Arg Asp Gly Lys Phe
 85 90 95
 Cys Asp Cys Cys Tyr Cys Glu Phe Phe Gly His Asn Ala Pro Pro Ala
 100 105 110
 Ala Pro Thr Ser Arg Asn Tyr Thr Glu Ile Arg Glu Lys Leu Arg Ser
 115 120 125
 Arg Leu Thr Arg Arg Lys Glu Glu Leu Pro Met Lys Gly Gly Thr Leu
 130 135 140
 Gly Gly Ile Pro Gly Glu Pro Ala Val Asp His Arg Asp Val Asp Glu
 145 150 155 160
 Leu Leu Glu Phe Ile Asn Ser Thr Glu Pro Lys Val Pro Asn Ser Ala
 165 170 175
 Arg Ala Ala Lys Arg Ala Arg His Lys Leu Lys Lys Lys Glu Lys Glu
 180 185 190
 Lys Ala Gln Leu Ala Ala Glu Ala Leu Lys Gln Ala Asn Arg Val Ser
 195 200 205
 Gly Ser Arg Glu Pro Arg Pro Ala Arg Glu Arg Leu Leu Glu Trp Pro
 210 215 220
 Asp Arg Glu Leu Asp Arg Val Asn Ser Phe Leu Ser Ser Arg Leu Gln
 225 230 235 240
 Glu Ile Lys Asn Thr Val Lys Asp Ser Ile Arg Ala Ser Phe Ser Val
 245 250 255
 Cys Glu Leu Ser Met Asp Ser Asn Gly Phe Ser Lys Glu Gly Ala Ala
 260 265 270
 Glu Pro Glu Pro Gln Ser Leu Pro Pro Ser Asn Leu Ser Xaa Ser Ser
 275 280 285
 Glu Gln Gln Pro Asp Ile Asn Leu Asp Leu Ser Pro Leu Thr Leu Gly
 290 295 300
 Ser Pro Gln Asn His Thr Leu Gln Ala Pro Gly Glu Pro Ala Pro Pro
 305 310 315 320
 Trp Ala Glu Met Arg Gly Pro His Pro Pro Trp Thr Glu Val Arg Gly
 325 330 335

112

Pro Pro Pro Gly Ile Val Pro Glu Asn Gly Leu Val Arg Arg Leu Asn
 340 345 350
 Thr Val Pro Asn Leu Ser Arg Val Ile Trp Val Lys Thr Pro Lys Pro
 355 360 365
 Gly Tyr Pro Ser Ser Glu Glu Pro Ser Ser Lys Glu Val Pro Ser Cys
 370 375 380
 Lys Gln Glu Leu Pro Glu Pro Val Ser Ser Gly Gly Lys Pro Gln Lys
 385 390 395 400
 Gly Lys Arg Gln Gly Ser Gln Ala Lys Lys Ser Glu Ala Ser Pro Ala
 405 410 415
 Pro Arg Pro Pro Ala Ser Leu Glu Val Pro Ser Ala Lys Gly Gln Val
 420 425 430
 Ala Gly Pro Lys Gln Pro Gly Arg Val Leu Glu Leu Pro Lys Val Gly
 435 440 445
 Ser Cys Ala Glu Ala Gly Glu Gly Ser Arg Gly Ser Arg Pro Gly Pro
 450 455 460
 Gly Trp Ala Gly Ser Pro Lys Thr Glu Lys Glu Lys Gly Ser Ser Trp
 465 470 475 480
 Arg Asn Trp Pro Gly Glu Ala Lys Ala Arg Pro Gln Glu Gln Glu Ser
 485 490 495
 Val Gln Pro Pro Gly Pro Ala Arg Pro Gln Ser Leu Pro Gln Gly Lys
 500 505 510
 Gly Arg Ser Arg Arg Ser Arg Asn Lys Gln Glu Lys Pro Ala Ser Ser
 515 520 525
 Leu Asp Asp Val Phe Leu Pro Lys Asp Met Asp Gly Val Glu Met Asp
 530 535 540
 Glu Thr Asp Arg Glu Val Glu Tyr Phe Lys Arg Phe Cys Leu Asp Ser
 545 550 555 560
 Ala Lys Gln Thr Arg Gln Lys Val Ala Val Asn Trp Thr Asn Phe Ser
 565 570 575
 Leu Lys Lys Thr Thr Pro Ser Thr Ala Gln
 580 585

<210> 159

<211> 1704

<212> DNA

<213> Homo sapiens

<400> 159

ccggagggca gaaggcagar tccaggctta gactgcagtt cctcgcttac ctgtgcagtc 60
 taattttgag ctgcctcttt gtagtcttaa aaggcaggag cttcgtgttg tgggtctgct 120
 aaccggtacg tttccgtggg caagtcgtgt gtactcctcg ccatggctca gctccaaaca 180
 cgcttctaca ctgataacaa gaaatatgcc gtagatgatg ttcccttctc aatccctgct 240
 gcctctgaaa ttgccgacct tagtaacatc atcaataaac tactaaagga caaaaatgag 300
 ttccacaaac atgtggagtt tgatttcctt attaagggcc agtttctgcg aatgcccttg 360
 gacaaacaca tggaaatgga gaacatctca tcagaagaag ttgtggaaat agaatacgtg 420

113

```

gagaagtata ctgcacccca gccagagcaa tgcattgttcc atgatgactg gatcagttca 480
attaaagggg cagaggaatg gatcttgact gggtcttatg ataagacttc tcggatctgg 540
tccttggaag gaaagtcaat aatgacaatt gtgggacata cggatgttgt aaaagatgtg 600
gcctgggtga aaaaagatag tttgtcctgc ttattattga gtgcttctat ggatcagact 660
attctcttat gggagtggaa tgtagagaga aacaaagtga aagccctaca ctgctgtaga 720
ggtcattgctg gaagtgtaga ttctatagct gttgatggct caggaactaa attttgcatg 780
ggctcctggg ataagatgct aaagatctgg tctacagtcc ctacagatga agaagatgaa 840
atggaggagt ccacaaatcg accaagaaag aaacagaaga cagaacagtt gggactaaca 900
aggactccca tagtgaccct ctctggccac atggaggcag tttcctcagt tctgtggtca 960
gatgctgaag aaatctgcag tgcattcttg gaaccatacaa ttagagtgtg ggatgttgag 1020
tctggcagtc ttaagtcaac tttgacagga aataaagtgt ttaattgtat ttcctattct 1080
ccactttgta aacgttttagc atctggaagc acagataggc atatcagact gtgggatccc 1140
cgaactaaag atggttcttt ggtgtcgtcg tccctaactg cacatactgg ttgggtgaca 1200
tcagtataat ggtctcctac ccatgaacag cagctgattt caggatcttt agataacatt 1260
gttaagctgt gggatacaag aagttgtaag gctcctctct atgatctggc tgctcatgaa 1320
gacaaagttc tgagtgtaga ctggacagac acagggtctac ttctgagtgg aggagcagac 1380
aataaattgt attcctacag atattcacct accacttccc atgttggggc atgaaagtga 1440
acaataattt gactatagag attatttctg taaatgaaat tggtagagaa ccatgaaatt 1500
acatagatgc agatgcagaa agcagccttt tgaagtttat ataatgttt cacccttcat 1560
aacagctaac gtatcacttt ttcttatttk gtatttataa taagataggt kgtgtttata 1620
aaatacaaac tgtggcatac attctctata caaacttgaa attaaactga gttttacatt 1680
tcttctttta aaaaaaaaaa aaaa 1704

```

<210> 160

<211> 423

<212> PRT

<213> Homo sapiens

<400> 160

```

Met Ala Gln Leu Gln Thr Arg Phe Tyr Thr Asp Asn Lys Lys Tyr Ala
 1             5             10             15

Val Asp Asp Val Pro Phe Ser Ile Pro Ala Ala Ser Glu Ile Ala Asp
 20             25             30

Leu Ser Asn Ile Ile Asn Lys Leu Leu Lys Asp Lys Asn Glu Phe His
 35             40             45

Lys His Val Glu Phe Asp Phe Leu Ile Lys Gly Gln Phe Leu Arg Met
 50             55             60

Pro Leu Asp Lys His Met Glu Met Glu Asn Ile Ser Ser Glu Glu Val
 65             70             75             80

Val Glu Ile Glu Tyr Val Glu Lys Tyr Thr Ala Pro Gln Pro Glu Gln
 85             90             95

Cys Met Phe His Asp Asp Trp Ile Ser Ser Ile Lys Gly Ala Glu Glu
100            105            110

Trp Ile Leu Thr Gly Ser Tyr Asp Lys Thr Ser Arg Ile Trp Ser Leu
115            120            125

Glu Gly Lys Ser Ile Met Thr Ile Val Gly His Thr Asp Val Val Lys
130            135            140

Asp Val Ala Trp Val Lys Lys Asp Ser Leu Ser Cys Leu Leu Leu Ser
145            150            155            160

Ala Ser Met Asp Gln Thr Ile Leu Leu Trp Glu Trp Asn Val Glu Arg
165            170            175

```

114

Asn Lys Val Lys Ala Leu His Cys Cys Arg Gly His Ala Gly Ser Val
 180 185 190
 Asp Ser Ile Ala Val Asp Gly Ser Gly Thr Lys Phe Cys Ser Gly Ser
 195 200 205
 Trp Asp Lys Met Leu Lys Ile Trp Ser Thr Val Pro Thr Asp Glu Glu
 210 215 220
 Asp Glu Met Glu Glu Ser Thr Asn Arg Pro Arg Lys Lys Gln Lys Thr
 225 230 235 240
 Glu Gln Leu Gly Leu Thr Arg Thr Pro Ile Val Thr Leu Ser Gly His
 245 250 255
 Met Glu Ala Val Ser Ser Val Leu Trp Ser Asp Ala Glu Glu Ile Cys
 260 265 270
 Ser Ala Ser Trp Asp His Thr Ile Arg Val Trp Asp Val Glu Ser Gly
 275 280 285
 Ser Leu Lys Ser Thr Leu Thr Gly Asn Lys Val Phe Asn Cys Ile Ser
 290 295 300
 Tyr Ser Pro Leu Cys Lys Arg Leu Ala Ser Gly Ser Thr Asp Arg His
 305 310 315 320
 Ile Arg Leu Trp Asp Pro Arg Thr Lys Asp Gly Ser Leu Val Ser Leu
 325 330 335
 Ser Leu Thr Ser His Thr Gly Trp Val Thr Ser Val Lys Trp Ser Pro
 340 345 350
 Thr His Glu Gln Gln Leu Ile Ser Gly Ser Leu Asp Asn Ile Val Lys
 355 360 365
 Leu Trp Asp Thr Arg Ser Cys Lys Ala Pro Leu Tyr Asp Leu Ala Ala
 370 375 380
 His Glu Asp Lys Val Leu Ser Val Asp Trp Thr Asp Thr Gly Leu Leu
 385 390 395 400
 Leu Ser Gly Gly Ala Asp Asn Lys Leu Tyr Ser Tyr Arg Tyr Ser Pro
 405 410 415
 Thr Thr Ser His Val Gly Ala
 420

<210> 161

<211> 2302

<212> DNA

<213> Homo sapiens

<400> 161

cggtggcaag caattcacaa ggtgggggaca gacttggtact ttaacatgta gtccattcaa 60
 gcaaacaact ttggactcta ctgatagatg aaagagcaaa tgatgactag tttagcctct 120
 gcatatcaac aatataatgc agatcaagta taatgctcaa tattagtgac atgagtatca 180
 ctaaattaca tagaaccctg atgggggttct ctgtgtcgta atccattaaa tcggtggcca 240
 gtgcttgctg ccgtgggttta gtgattgggt gttagaaata aaaactcagg tctatttctt 300
 accagtcagt aacaattttt agagaatgta cttggtatat aatatatgga cttcagggaac 360
 tttattgggg tggggggtta attttgcctt accctgttca ctttcagatg awtaggcttt 420

```

tgcacttttag aatgagaaac ttgtgacgtt agtgtgttct tactagcttt aatttgtatg 480
ttagcaatga attgtgaatc ttagtgacgt ggggtttttt aaaaaactca aaaagctggg 540
aattaagtgg tttcagtaat aatgctatac cgagggtgctt gcattgtatt tcataatttt 600
gttacaaacc aaaattattt ttaatgagaa cagtcttggg ttcagagggtg tgatgccaga 660
atgtattttc gtactgttag gcccttggaa cagataccgg tgctttctga aagatgaaag 720
aaatgcaatg ggtgctcttc atgcaagggtt gcaaacctac caagaatgca taatagtctc 780
acttttcccc aataaagaga tgcgtgtgac tagttttgga cttttaacct taatgggggt 840
tgcagtcttc ctattgttaa tcattgtcag ctgcagtgc atgatccaca gtcctgcatt 900
tactgccttt cacttaatga ttttggacag gtttttagaga gccaggatgt tggctctgggc 960
ctttatttgg ttttggcttt agctgataat gtttttagtga tgctcagctag tgcagttctc 1020
aaatggctgc ctattaggga aagaattcag aggatttgac tgctcctaata catctgtcat 1080
tgctgctaga taatgattgg caatttttaa gactcaactg gaaatctcaa cagttgctgg 1140
taaaccatta accataaaaa cgttgctttt gaacaccagt gctgaaaaaa atattttttt 1200
tttttttttt gagagtgaag agggcttggg cttaagatag gacaatgtgg agaattgggg 1260
gaagaatgca aaacgatata gtatccctta tggatggtac atgtgcaaca gggaactctt 1320
acttcatata ccytttgcag taatcattca gggaggaaga aaaacstgga acttgaatga 1380
aggctgatct ttgttttgtg cactgtggcc ctgccaggca tatagtgaag gtgaatgtct 1440
tctccctcag aaaaaaattg gttccttgct gtcccagtaa ggcatagctt ttccagccct 1500
aactttaaaa ctcaagtagg acttagatgg gaaagaatga ggtaaataca aaggattgca 1560
ggacaacaac tacagcgttg tgtactgtgg gaaggggagt tgggcactct tgggaggact 1620
cctgctgaag gtggtcagcc tgcctgacaa tgggaagacat acttgaatgg ggagcagggt 1680
atgtgctttc atatgaaaaa agagctgatg ttaaaactca tttggtgagg tcaacgttgt 1740
cacatacctt cacataaggg atagtwtatt ttgggttga gtcaaacttg tgctcagact 1800
ggtgaaactg agagtcaggc ttttacattt taaagaaaaat acagtattca ttctaattca 1860
ggtgtctact tattttatgt aagaataatt ttagatttcc cccccacat gaagtttctt 1920
cctattttct tatgctgtaa cttaccccca atctttatct ctggattttt actctttaaa 1980
ttttgaagtt gactagcatt ttcaaacctt tattttatac ccttgtcttt tataatwaact 2040
ttttcttatt attctttagg taagaatgat tgatgttggc tgatattgga gtgctcattc 2100
acatgaagtg gatagatact tctcaagaca tcacacagcg tgagtcaatc aaggagggaa 2160
gccacaagca gactgacaac gtttctagca ggatcagggt agctgtgtcc agaaaaccaa 2220
cgagaaggag tggaaggagg aatgaacgtt tcattctcgt taataaaggc attatcctaa 2280
ttaaaaaaaa aaaaaaaaaa aa 2302

```

<210> 162

<211> 94

<212> PRT

<213> Homo sapiens

<400> 162

```

Met Pro Glu Cys Ile Phe Val Leu Leu Gly Pro Trp Asn Arg Tyr Arg
  1             5             10             15

```

```

Cys Phe Leu Lys Asp Glu Arg Asn Ala Met Gly Ala Leu His Ala Arg
      20             25             30

```

```

Leu Gln Thr Tyr Gln Glu Cys Ile Ile Val Ser Leu Phe Pro Asn Lys
      35             40             45

```

```

Glu Met Arg Val Thr Ser Phe Gly Leu Leu Thr Leu Met Gly Val Ala
      50             55             60

```

```

Cys Leu Leu Leu Leu Ile Ile Val Ser Cys Ser Asp Met Ile His Ser
      65             70             75             80

```

```

Pro Ala Phe Thr Ala Phe His Leu Met Ile Leu Asp Arg Phe
      85             90

```

<210> 163

<211> 1538

<212> DNA

<213> Homo sapiens

116,

<400> 163

```

rcagcctgct gcgcgcccag gggccccgcg ggttttcggg cgcaggggtg cccccgcggc 60
aggcggcggc catgaacttc tccgaggtat tcaagctctc cagcttactc tgcaagttct 120
ccccggacrg caagtacctg gcttcctgtg tccagtaccg gttagtggtc cgggatgtga 180
acacccttca gatccttcag ctgtacacgt gcctagacca gatccagcac atcgagtggg 240
cggcagactc gctcttcac cgtkcgcca tgtacaarcg agggctgggt caggtctggg 300
ctttagagca gcccgaaatg cactgcaaaa tagacgaggg ctacgcccgg ctggtggcct 360
cgtgctggag cccggacggg cgccacattc tcaacaccac ggaattccat ctgcgataaa 420
ccgtctggtc cttgtgcaca aaatccgtgt cttacatcaa ataccgaaa gcttgtctgc 480
agggaatcac cttcaccagg gacggccgct acatggcgct ggcagaacgg cgcgactgca 540
aagattacgt gagcatcttc gtctgcagtg attggcagct cctgcggcat tttgatacgg 600
acaccagga tctcacaggg attgagtggg ccccaaaccg ctgtgtgctg gcagtgtggg 660
acacctgctt ggaggtgcgc atccttaatc acgtgacttg gaaaatgatc acggagtgtg 720
ggcatcctgc agccattaat gatcccaaga tagtgggtga taaggaggcc gagaagagcc 780
cacagctggg actgggctgc ctctccttcc cgccgccccg ggccggggcc ggccctctcc 840
cgagctcaga gagtaaatat gagatcgctt ctgtcccagt ctctctacag aactgaaac 900
ctgttaccga cagagcaaac ccgaaaatgg gcataggaat gctggcattt agtcctgaca 960
gctacttcct ggcgacaagg aacgacaaca ttcccaatgc cgtctgggtc tgggacattc 1020
agaagctgag gctgttcgcg gtgctcgagc agctgtcccc agtgcgcgcg tttcagtggg 1080
acccgcagca gccgcggctg gccatctgca cgggaggcag caggctctac ctgtgggtcc 1140
cagcgggctg catgtcgggt caggtgcctg gggaaggcga ctttgcagtg ctctctctgt 1200
gctggcattt aagcggagac tcgatggccc tcctcagcaa ggatcacttc tgcctctgct 1260
tcctggagac agaggcagtg gtcggcacag cctgcagaca gctgggcggc cacacgtagc 1320
agcgggtgcac taacgtgtgc agaaacaggg ctactctgtg tttccagtgt gggaaaaaac 1380
acagcttcac caggaggttc tccactgtgg tggctctggat tcagtgattg attctatttt 1440
tctatagcaa agcattttttg taaatatgta tggataaaaa ctgtagtttt attattttaa 1500
ataaatactt gctgattttat aaaaaaaaaa aaaaaaaaaa 1538

```

<210> 164

<211> 415

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (20)

<220>

<221> UNSURE

<222> (65)

<400> 164

```

Met Asn Phe Ser Glu Val Phe Lys Leu Ser Ser Leu Leu Cys Lys Phe
  1                      5                      10          15

Ser Pro Asp Xaa Lys Tyr Leu Ala Ser Cys Val Gln Tyr Arg Leu Val
      20                      25                      30

Val Arg Asp Val Asn Thr Leu Gln Ile Leu Gln Leu Tyr Thr Cys Leu
      35                      40                      45

Asp Gln Ile Gln His Ile Glu Trp Ser Ala Asp Ser Leu Phe Ile Leu
      50                      55                      60

Xaa Ala Met Tyr Lys Arg Gly Leu Val Gln Val Trp Ser Leu Glu Gln
      65                      70                      75          80

Pro Glu Trp His Cys Lys Ile Asp Glu Gly Ser Ala Gly Leu Val Ala
      85                      90                      95

```


117

Ser Cys Trp Ser Pro Asp Gly Arg His Ile Leu Asn Thr Thr Glu Phe
 100 105 110
 His Leu Arg Ile Thr Val Trp Ser Leu Cys Thr Lys Ser Val Ser Tyr
 115 120 125
 Ile Lys Tyr Pro Lys Ala Cys Leu Gln Gly Ile Thr Phe Thr Arg Asp
 130 135 140
 Gly Arg Tyr Met Ala Leu Ala Glu Arg Arg Asp Cys Lys Asp Tyr Val
 145 150 155 160
 Ser Ile Phe Val Cys Ser Asp Trp Gln Leu Leu Arg His Phe Asp Thr
 165 170 175
 Asp Thr Gln Asp Leu Thr Gly Ile Glu Trp Ala Pro Asn Gly Cys Val
 180 185 190
 Leu Ala Val Trp Asp Thr Cys Leu Glu Val Arg Ile Leu Asn His Val
 195 200 205
 Thr Trp Lys Met Ile Thr Glu Phe Gly His Pro Ala Ala Ile Asn Asp
 210 215 220
 Pro Lys Ile Val Val Tyr Lys Glu Ala Glu Lys Ser Pro Gln Leu Gly
 225 230 235 240
 Leu Gly Cys Leu Ser Phe Pro Pro Pro Arg Ala Gly Ala Gly Pro Leu
 245 250 255
 Pro Ser Ser Glu Ser Lys Tyr Glu Ile Ala Ser Val Pro Val Ser Leu
 260 265 270
 Gln Thr Leu Lys Pro Val Thr Asp Arg Ala Asn Pro Lys Met Gly Ile
 275 280 285
 Gly Met Leu Ala Phe Ser Pro Asp Ser Tyr Phe Leu Ala Thr Arg Asn
 290 295 300
 Asp Asn Ile Pro Asn Ala Val Trp Val Trp Asp Ile Gln Lys Leu Arg
 305 310 315 320
 Leu Phe Ala Val Leu Glu Gln Leu Ser Pro Val Arg Ala Phe Gln Trp
 325 330 335
 Asp Pro Gln Gln Pro Arg Leu Ala Ile Cys Thr Gly Gly Ser Arg Leu
 340 345 350
 Tyr Leu Trp Ser Pro Ala Gly Cys Met Ser Val Gln Val Pro Gly Glu
 355 360 365
 Gly Asp Phe Ala Val Leu Ser Leu Cys Trp His Leu Ser Gly Asp Ser
 370 375 380
 Met Ala Leu Leu Ser Lys Asp His Phe Cys Leu Cys Phe Leu Glu Thr
 385 390 395 400
 Glu Ala Val Val Gly Thr Ala Cys Arg Gln Leu Gly Gly His Thr
 405 410 415

<210> 165

<211> 3178
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (1653)

<220>
 <221> unsure
 <222> (1767)

<400> 165

atttcttttg	ccacttaaaa	ttaactgtgg	gctactcagc	caggggtacag	tgggagcctc	60
aggaagggtca	gaggcaacct	cctccctgt	tctatcaata	gaaacccaac	gttgaggcaa	120
ttcctaaaca	gacgcacctc	gtagcttgct	gtatgtgttt	attctttatt	gctttcagct	180
ttggggctgt	aacagggtaca	aatatttggg	ttccctatga	tttatagaga	agaagaagaa	240
accagcttt	ctatcagagc	actgcaagag	aagagtctta	cacctgccct	cagtgggaga	300
tgagaatgg	cattatgact	tagagaatgc	tacacgtgta	ggttgctggg	gtgtcctgaa	360
tccacaggca	taaagcactc	cccattttcc	tactgtaatg	cagattctcc	ggctcaagg	420
ctagaatatt	tgatcctaag	atcaagacat	catgcccttc	gaatagtact	gctctttgtt	480
ttcaggagtc	acgtgaacac	acaactctcc	tatattcttc	acgaacctca	ggattgagca	540
aggctctttg	aatttttttg	gttcacttta	ttgacctggg	agcaagggtgc	taattctgtg	600
gtcagtatct	aatgtttttt	tcagtggagc	tttttctttg	ggccatattt	gccttctaatt	660
acattcctgc	aatatgtagt	ggtgatttcc	cttagcttcc	tctactacc	tcttatactc	720
atctcccaa	attatttgcc	tcccttaaat	aagttttcct	agaaggtaag	ctgggcaggc	780
aatttgaaaa	atatttagatc	ccaagaaatc	tattccgttt	gcattggact	tctcggattc	840
catgtgtttg	cagcaggact	acatcgaact	ctgatgtgcc	ggattgtggc	atgtctgcat	900
gtctcatcca	tctattgttt	ttggtaactc	agtttggaat	ttcagtgtct	gtcttccctg	960
ggttgacatt	ggaatcagcc	tctcctttga	gcttatttta	actcttgagc	aacataacat	1020
agatttcaat	tgaacagttt	ataccaaagg	gcagcctgtg	cctgtttatg	gatcctctct	1080
gcctttgtac	ttgaagagcg	cattttacat	ttccagtoct	ttcacagaca	ggagctccaa	1140
ccttacgatg	gagaattaaa	cttgcttgta	tttccacttt	gtggatgagg	aactatgaga	1200
ggtggagtga	cttcctgggt	ccccgctgag	acttagtgac	agatcccaga	caagaacttc	1260
atctctgact	ccaggcttag	tctcttccc	cctgtctctt	gccaaactcca	gccctgacac	1320
cgtgggcgtc	tcccctgaga	gcagatatat	ttcaattgtc	caggccaaaa	gaggggagag	1380
gcggcataaa	cacccaaatt	aggtggagga	tccaaaagtc	attttcatth	ggctgtggaa	1440
tatgtttttt	gtatttcaat	cagctagggg	tgtgttcaact	gtttttggaa	attcacagcg	1500
cttgagcctc	cataatgaag	ctgggctgca	gagcacctgg	cagtgctctc	aggctccag	1560
ctcccaacct	aggacctctc	cctgccctcc	actctgggtg	gtttgtgggt	ccctcgaccg	1620
agggtttcta	gaatcagggg	ccttgtctaa	gtnttggttg	cccagagccc	agcgaagtgt	1680
gtgatacacc	ttgggagttt	aggagatcac	aaaagggtatg	aaaacacctt	tagaaaacat	1740
ttcattgggtg	gggcgtgggt	gcttatncct	gtgatcccag	cctcctgagt	agctgggac	1800
acaggcgtac	accaccacac	ccagctaagt	ttttgtactt	ttagtggaga	cgggggttca	1860
ccatgttggtc	caggctgggtc	acggactcct	gacctcagat	gatctgcccg	cctgagcctc	1920
cgaaagtgtc	gggattacag	gcgtgagcca	ctgcgcccgg	catggagctg	ctattgatgg	1980
gtgagctcca	cagcttttgc	agaagcagag	gatatgaact	gagagcagtg	ctgtcacctc	2040
tcagcatgtc	cccaagccca	actggggcct	cctggagatg	cctcagtcgg	cactggcccc	2100
aagggaatcg	tggggaacag	ttgcacaatt	tgcaagtttc	tgagtgcagc	ttttcccatc	2160
cttgggatca	gcagataagt	tgtaaacaca	gggagggtact	gcttattgga	tatacttttc	2220
ataagtagga	cagaattctt	ttgggactct	agagttggga	actaccactt	actagcggcg	2280
tggctgaggc	agtcttcctc	ctctgtgggt	caggcccttc	atctgtgaaa	tggggtcaca	2340
gcactctgct	ctcagggtca	ctgtgagggtg	tcgatgtgag	caaggcctga	ggcttggtcaa	2400
gaagtcaatg	tctgcaactc	agcaggagagc	aatggcaggg	gcagtcaggg	gtcggctcgg	2460
ataggggtgg	gtgggctcct	gaggttggaa	gggttaggaat	tacagagctc	ttgttactat	2520
tgttgttact	gtttttaaag	atacgatatt	tcagataaatt	caggagcacg	taaggatgaa	2580
acttaggata	acctaaaatc	acacaacctc	gagagaagcg	catttttgtc	ttccccatt	2640
ttctaggcaa	aaatgaaaat	actttgtcct	cttgaaaaaac	aattctctaa	tgaatatcct	2700
atgtttacata	gaggcctgtg	taatgcattt	ctgtggccac	atgggtgtcaa	tttcatgaat	2760
atacaataat	attattaatt	ccctgctgag	gacattaaact	ggtttccaag	gctgcttgtt	2820
gtttttgcta	ctacaaataa	tgcattgatg	ataaataactt	ttacatacat	ggttgtatgt	2880
ttatctgaac	tattttcacc	aatatattca	cctagtgtgt	atggaagtgt	ccatttttgt	2940

119

catacccttg gtaaccctgt gatattatatt ttaaaccattt tgctaattgga tctctgttct 3000
 tgtttgaatg tatttaattt ccagcagaat gagcccatc ccttattttg attggccatt 3060
 tatcatgtac atatggtgaa atgcctattc gtgacttagc caatgttggt tctttttctt 3120
 actgattact acagtacatt tttatatgaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa 3178

<210> 166

<211> 67

<212> PRT

<213> Homo sapiens

<400> 166

Met Ile Asn Thr Phe Thr Tyr Met Val Val Cys Leu Ser Glu Leu Phe
 1 5 10 15

Ser Pro Ile Tyr Ser Pro Ser Val Tyr Gly Ser Val His Phe Cys His
 20 25 30

Thr Pro Gly Asn Pro Val Ile Leu Phe Leu Asn Ile Leu Leu Met Asp
 35 40 45

Leu Cys Ser Cys Leu Asn Val Phe Asn Phe Gln Gln Asn Glu Pro His
 50 55 60

Ser Leu Phe

65

<210> 167

<211> 2401

<212> DNA

<213> Homo sapiens

<400> 167

cgcacccctca gccaccgtcg cagctgcctc cgccaccacc gccgcctcct cttccttggc 60
 caccacagaa ctgggcagca gcctcaagaa gaagaagcgg ctctcccagt cagatgagga 120
 tgtcattagg ctaataggac agcacttgaa tggccttagg ctcaaccaga ctggtgatct 180
 cctcatgcaa gagtcaggat gtcgcttaga acatccttct gctaccaaatt tccgaaatca 240
 tgtcatggaa ggagactggg ataaggcaga aaatgacctg aatgaactaa agccttttagt 300
 gcattctcct catgctattg tgaggatgaa gtttttgcct ctgcagcaga agtacctaga 360
 atacctggag gatggcaagg tcctggaggc acttcaagtt ctacgctgtg aattgacgcc 420
 gctgaaatac aatacagagc gcattcatgt tcttagtggg tatctgatgt gttagccatgc 480
 agaagacctc cgtgcaaaag cagaatggga aggcacaagg acagcttccc gatctaaact 540
 attggataaa cttcagacct atttaccacc atcagtgatg cttccccac ggcgtttaca 600
 gactctcctg cggcaggcgg tggaactaca aagggatcgg tgcctatatc acaatactaa 660
 acttgataat aatctagatt ctgtgtctct gcttatagac catgtttgta gtaggaggca 720
 gttcccatgt tatacgcagc agatacttac ggagcattgt aatgaagtgt ggttctgtaa 780
 attctctaatt gatggcacta aactagcaac aggatcaaaa gatacaacag ttatcatatg 840
 gcaagttgat ccggatacac acctgctaaa actgcttaaa acattagaag gacatgctta 900
 tggcgcttct tatattgcat ggagtccaga tgacaactat cttgttgctt gtggcccaga 960
 tgactgctct gagctttggc tttggaatgt acaaacagga gaactaagga caaaaatgag 1020
 ccagtctcat gaagacagtt tgacaagtgt ggcttggaat ccagatggga agcgctttgt 1080
 gactggaggt cagcgtgggc agttctatca gtgtgactta gatggtaatc tccttgactc 1140
 ctgggaaggg gtaagagtgc aatgcctttg gtgcttgagt gatggaaaga ctgttctggc 1200
 atcagataca caccagcgaa ttccgggcta taacttcgag gaccttacag ataggaacat 1260
 agtacaagaa gatcatccta ttatgtcttt tactatttca aaaaatggcc gattagcttt 1320
 gttaaatgta gcaactcagg gagttcattt atgggacttg caagacagag ttttagtaag 1380
 aaagtatcaa ggtgttacac aagggtttta tacaattcat tcatgttttg gaggccataa 1440
 tgaagacttc atcgctagtg gcagtgaaga tcacaagggt tacatctggc acaaacgtag 1500
 tgaactgcca attgcccagc tgacagggca cacacgtaca gtaactgtg tgagctggaa 1560
 cccacagatt ccattccatga tggccagcgc ctcagatgat ggcactgtta gaatatggg 1620
 accagcacct tttatagacc accagaatat tgaaggagaa tgcagtagca tggatagttg 1680
 atggtgaatt tggagcagac gacttctgtt taacttaaaa ttagtcgtat tttaatggct 1740

120

```

tggtgatttgg tgcaaacaaa catgattgat agctggacag acatgctcgt catgaaaaaa 1800
gaaccatttc tgaagcccgga ttggggccaa acatttacac cttgcttcat agtaaccagt 1860
tgagatgaag cacgtcggtta gaacgttggt ggacaccatg ttgaattatt ccccatcgg 1920
ttgtgaagaa ctgtgctaca ttcagggtta cccattgaac tcagtatata ttttttttc 1980
cttcctgtct tttgtctggc aggataccat tcttggtgct cttctgtgta atgaagttta 2040
aatgcttggt tggaaaactt tatttaacag tttagaaggc ttgatagaaa gagtgcatta 2100
gtctgaagag tatacattgg ataggaaaga atttccttct tttgtttctc caaatcttct 2160
cgcttatttt agcttgagat ctttgcagct tgggtcatgg attctagcct tgcccgttgc 2220
gcagtatata ctgatccaga tgataaacca gtgaactatg tcaaaagcac tctcaatatt 2280
acatttgaca aaaagttttg tacttttcac atagcttggt gccccgtaaa aggggttaaca 2340
gcacaatttt ttaaaaataa attaagaagt atttatagga ttaaaaaaaa aaaaaaaaaa 2400
a

```

<210> 168

<211> 498

<212> PRT

<213> Homo sapiens

<400> 168

```

Met Gln Glu Ser Gly Cys Arg Leu Glu His Pro Ser Ala Thr Lys Phe
  1              5              10              15

```

```

Arg Asn His Val Met Glu Gly Asp Trp Asp Lys Ala Glu Asn Asp Leu
      20              25              30

```

```

Asn Glu Leu Lys Pro Leu Val His Ser Pro His Ala Ile Val Arg Met
    35              40              45

```

```

Lys Phe Leu Leu Leu Gln Gln Lys Tyr Leu Glu Tyr Leu Glu Asp Gly
    50              55              60

```

```

Lys Val Leu Glu Ala Leu Gln Val Leu Arg Cys Glu Leu Thr Pro Leu
    65              70              75              80

```

```

Lys Tyr Asn Thr Glu Arg Ile His Val Leu Ser Gly Tyr Leu Met Cys
      85              90              95

```

```

Ser His Ala Glu Asp Leu Arg Ala Lys Ala Glu Trp Glu Gly Lys Gly
    100              105              110

```

```

Thr Ala Ser Arg Ser Lys Leu Leu Asp Lys Leu Gln Thr Tyr Leu Pro
    115              120              125

```

```

Pro Ser Val Met Leu Pro Pro Arg Arg Leu Gln Thr Leu Leu Arg Gln
    130              135              140

```

```

Ala Val Glu Leu Gln Arg Asp Arg Cys Leu Tyr His Asn Thr Lys Leu
    145              150              155              160

```

```

Asp Asn Asn Leu Asp Ser Val Ser Leu Leu Ile Asp His Val Cys Ser
    165              170              175

```

```

Arg Arg Gln Phe Pro Cys Tyr Thr Gln Gln Ile Leu Thr Glu His Cys
    180              185              190

```

```

Asn Glu Val Trp Phe Cys Lys Phe Ser Asn Asp Gly Thr Lys Leu Ala
    195              200              205

```

```

Thr Gly Ser Lys Asp Thr Thr Val Ile Ile Trp Gln Val Asp Pro Asp
    210              215              220

```

121

Thr His Leu Leu Lys Leu Leu Lys Thr Leu Glu Gly His Ala Tyr Gly
 225 230 235 240
 Val Ser Tyr Ile Ala Trp Ser Pro Asp Asp Asn Tyr Leu Val Ala Cys
 245 250 255
 Gly Pro Asp Asp Cys Ser Glu Leu Trp Leu Trp Asn Val Gln Thr Gly
 260 265 270
 Glu Leu Arg Thr Lys Met Ser Gln Ser His Glu Asp Ser Leu Thr Ser
 275 280 285
 Val Ala Trp Asn Pro Asp Gly Lys Arg Phe Val Thr Gly Gly Gln Arg
 290 295 300
 Gly Gln Phe Tyr Gln Cys Asp Leu Asp Gly Asn Leu Leu Asp Ser Trp
 305 310 315 320
 Glu Gly Val Arg Val Gln Cys Leu Trp Cys Leu Ser Asp Gly Lys Thr
 325 330 335
 Val Leu Ala Ser Asp Thr His Gln Arg Ile Arg Gly Tyr Asn Phe Glu
 340 345 350
 Asp Leu Thr Asp Arg Asn Ile Val Gln Glu Asp His Pro Ile Met Ser
 355 360 365
 Phe Thr Ile Ser Lys Asn Gly Arg Leu Ala Leu Leu Asn Val Ala Thr
 370 375 380
 Gln Gly Val His Leu Trp Asp Leu Gln Asp Arg Val Leu Val Arg Lys
 385 390 395 400
 Tyr Gln Gly Val Thr Gln Gly Phe Tyr Thr Ile His Ser Cys Phe Gly
 405 410 415
 Gly His Asn Glu Asp Phe Ile Ala Ser Gly Ser Glu Asp His Lys Val
 420 425 430
 Tyr Ile Trp His Lys Arg Ser Glu Leu Pro Ile Ala Glu Leu Thr Gly
 435 440 445
 His Thr Arg Thr Val Asn Cys Val Ser Trp Asn Pro Gln Ile Pro Ser
 450 455 460
 Met Met Ala Ser Ala Ser Asp Asp Gly Thr Val Arg Ile Trp Gly Pro
 465 470 475 480
 Ala Pro Phe Ile Asp His Gln Asn Ile Glu Glu Glu Cys Ser Ser Met
 485 490 495
 Asp Ser

<210> 169

<211> 1110

<212> DNA

<213> Homo sapiens

<400> 169

ggtagcgggag ccgctctccg ccggtaggtc cccgcgcggc tgagcccagg ccgccagcgc 60

cgcggccccc	tgcggtgtcc	ctgagctcct	gctccccgcc	gggctgtctc	gagcaacggt	120
gcttcggagc	tccaaactcg	ggctgccggg	gcaagtgtct	tcatgaacct	agaggatgtc	180
cgggaagcac	tacaagggtc	ctgaagtcag	ttgttgcatc	aaatacttca	tatttggtct	240
caatgtcata	ttttggtttt	tgggaataac	attctctgga	attggactgt	gggcatggaa	300
tgaaaaagga	gttctgtcca	acatctcttc	catcacccat	ctcggcggct	ttgaccaggt	360
ttggctcttc	cttgtgtggg	gaggagtgat	gttcattttg	ggatttgtag	ggtgcatttg	420
agcgctacgg	gaaaaacact	tcctttctca	gtttttttct	gtgttctctg	gaattatttt	480
cttcctggag	ctcactgcgg	gagttcttag	attgtttttc	aaagactgga	tcaagacca	540
gctgtatttc	tttataaaca	acaacatcag	agcatatcgg	gatgacattg	atttgcaaaa	600
cctcatagac	ttcaccagag	aatatattcc	aatgcaagtc	gagagcgatg	tggcgttcca	660
ttctcctgct	gcactaaaga	tccgcagaa	gatgtcatca	acactcagtg	tggctatgat	720
gccaggcaaa	aaccagaagt	tgaccagcag	attgtaattc	acacgaaagg	ctgtgtgccc	780
cagtttgaga	agtggttgca	ggacaattta	accwctgttg	ctggtatttt	cataggcatt	840
gcattgctgc	agatatattg	gatmtgcctg	gcccagaatt	tggtttagcga	tatcgawgct	900
gtcagggcga	gctggtagac	cccctgcaac	cgtctgtgca	agacactgga	cagaccagc	960
tttcgggacc	ctccgcgctg	cgaactgat	cttcgagctg	catggacctt	atcacagatg	1020
cagctgcagc	tctcgcttaa	tggagctgcc	attaggggag	tgtaaaactg	ggaaatgctg	1080
ctcactgaca	gaattaaaaa	aaaaaaaaaa				1110

<213> Homo sapiens

Leu

123

<210> 171
 <211> 1621
 <212> DNA
 <213> Homo sapiens

<400> 171
 ctttaaaatg tggctaattgc ctgccttagg gaaccgttgt gaggattaag tgagacatgg 60
 tatataaaac gacctccttc tggcataaac ttgaggtgga agataccttg aggatgcttg 120
 aaggctctgt aggcagcttc acagcctttt ctttcctctt ctctatcaga ggtctctttg 180
 gaagcaataa tgatgactat aacaagaact tatcttgctt tgcaagattc ttccgccgtc 240
 agagtttctg atttattttc tgggggttcca tgtatgccag ggagaaagag agagcgcgaa 300
 agagagagga tgtctctctc agactggcac ctggcggtga agctggctga ccagccactt 360
 actccaaagt ctattcttcg gttgccagag acagaactgg gagaatactc gctagggggc 420
 tatagtattt catttctgaa gcagcttatt gctggcaaac tccaggagtc tgttccagac 480
 cctgagctga ttgatctgat ctactgtggt cggaagctaa aagatgacca gacacttgac 540
 ttctatggca ttcaacctgg gtccactgtc catgttctgc gaaagtcctg gcctgaacct 600
 gatcagaaac cggaacctgt ggacaaagtg gctgccatga gagagtccg ggtgttgac 660
 actgccctgc acagcagctc ctcttacagg gaggcggctt ttaagatgct cagcaataag 720
 gagtctctgg atcagatcat tgtggccacc ccaggcctca gcagtgacct tattgtctt 780
 ggggttctcc aggacaagga cctcttctct gtcttcgctg atcccaatat gcttgatagc 840
 ttggtgcctg ctcaaccagc cctcgtcaat gccattgtcc tggttctgca ctccgtagca 900
 ggcagtgcc caatgcctgg gactgactcc tcttcccgga gcatgccctc cagctcatal 960
 cgggatatgc cagggtggctt cctgtttgaa gggctctcag atgatgagga tgactttcac 1020
 ccaaacacca ggtccacacc ctctagcagt actcccagct cccgccagc ctccctgggg 1080
 tacagtggag ctgctgggcc ccggcccatc acccagagtg agctggccac cgccttggcc 1140
 ctggccagca ctccggagag cagctctcac acaccgactc ctggcaccac gggtcattcc 1200
 tcagggaacct caccaatgtc ctctgggtgc cagtcaggga cgcccatcac caatgatctc 1260
 ttacagccaag ccctacagca tgcccttcag gcctctgggc agccagcct tcagagccag 1320
 tggcagcccc agctgcagca gctacgtgac atgggcatcc aggacgatga gctgagcctg 1380
 cgggccctgc aggccaccgg tggggacatc caagcagccc tggagctcat ctttgctgga 1440
 ggagccccat gaactccctg cttccctga acccccagca agttgcagag gctactgcc 1500
 ttgggaggca ctcatgaagg tgcctccatc tctcccttcc ccaatatacc tgatggtcaa 1560
 ctctaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1620
 a 1621

<210> 172
 <211> 420
 <212> PRT
 <213> Homo sapiens

<400> 172
 Met Met Thr Ile Thr Arg Thr Tyr Leu Ala Leu Gln Asp Ser Ser Ala
 1 5 10 15
 Val Arg Val Ser Asp Leu Phe Ser Gly Val Pro Cys Met Pro Gly Arg
 20 25 30
 Lys Arg Glu Arg Glu Arg Glu Arg Met Ser Leu Ser Asp Trp His Leu
 35 40 45
 Ala Val Lys Leu Ala Asp Gln Pro Leu Thr Pro Lys Ser Ile Leu Arg
 50 55 60
 Leu Pro Glu Thr Glu Leu Gly Glu Tyr Ser Leu Gly Gly Tyr Ser Ile
 65 70 75 80
 Ser Phe Leu Lys Gln Leu Ile Ala Gly Lys Leu Gln Glu Ser Val Pro
 85 90 95

124

Asp Pro Glu Leu Ile Asp Leu Ile Tyr Cys Gly Arg Lys Leu Lys Asp
 100 105 110
 Asp Gln Thr Leu Asp Phe Tyr Gly Ile Gln Pro Gly Ser Thr Val His
 115 120 125
 Val Leu Arg Lys Ser Trp Pro Glu Pro Asp Gln Lys Pro Glu Pro Val
 130 135 140
 Asp Lys Val Ala Ala Met Arg Glu Phe Arg Val Leu His Thr Ala Leu
 145 150 155 160
 His Ser Ser Ser Ser Tyr Arg Glu Ala Val Phe Lys Met Leu Ser Asn
 165 170 175
 Lys Glu Ser Leu Asp Gln Ile Ile Val Ala Thr Pro Gly Leu Ser Ser
 180 185 190
 Asp Pro Ile Ala Leu Gly Val Leu Gln Asp Lys Asp Leu Phe Ser Val
 195 200 205
 Phe Ala Asp Pro Asn Met Leu Asp Thr Leu Val Pro Ala His Pro Ala
 210 215 220
 Leu Val Asn Ala Ile Val Leu Val Leu His Ser Val Ala Gly Ser Ala
 225 230 235 240
 Pro Met Pro Gly Thr Asp Ser Ser Ser Arg Ser Met Pro Ser Ser Ser
 245 250 255
 Tyr Arg Asp Met Pro Gly Gly Phe Leu Phe Glu Gly Leu Ser Asp Asp
 260 265 270
 Glu Asp Asp Phe His Pro Asn Thr Arg Ser Thr Pro Ser Ser Ser Thr
 275 280 285
 Pro Ser Ser Arg Pro Ala Ser Leu Gly Tyr Ser Gly Ala Ala Gly Pro
 290 295 300
 Arg Pro Ile Thr Gln Ser Glu Leu Ala Thr Ala Leu Ala Leu Ala Ser
 305 310 315 320
 Thr Pro Glu Ser Ser Ser His Thr Pro Thr Pro Gly Thr Gln Gly His
 325 330 335
 Ser Ser Gly Thr Ser Pro Met Ser Ser Gly Val Gln Ser Gly Thr Pro
 340 345 350
 Ile Thr Asn Asp Leu Phe Ser Gln Ala Leu Gln His Ala Leu Gln Ala
 355 360 365
 Ser Gly Gln Pro Ser Leu Gln Ser Gln Trp Gln Pro Gln Leu Gln Gln
 370 375 380
 Leu Arg Asp Met Gly Ile Gln Asp Asp Glu Leu Ser Leu Arg Ala Leu
 385 390 395 400
 Gln Ala Thr Gly Gly Asp Ile Gln Ala Ala Leu Glu Leu Ile Phe Ala
 405 410 415
 Gly Gly Ala Pro
 420

125

<210> 173
 <211> 1534
 <212> DNA
 <213> Homo sapiens

<400> 173
 aaaccctggt gctccagaca aagatcttag tggggaactag cgggccaagg atgaagcctc 60
 acttcagaaa cacagtggag cgaatgtatc gagacacatt ctctacaac ttttataata 120
 gacccatcct ttctcgtcgg aataccgtct ggctgtgcta cgaagtgaaa acaaagggtc 180
 cctcaaggcc ccctttggac gcaaagatct ttccaggcca ggtgtattcc gaacttaagt 240
 accaccagga gatgagattc ttccactggt tcagcaagtg gaggaagctg catcgtgacc 300
 aggagtatga gggtcacctgg tacatatcct ggagcccctg caaaaagtgt acaagggata 360
 tggccacggt cctggccgag gaccggaagg ttaccctgac catcttcggt gccgcctct 420
 actactttctg ggaccagat taccaggagg cgcttcgcag cctgtgtcag aaaagagacg 480
 gtccgcgtgc caccatgaag atcatgaatt atgacgaatt tcagcactgt tggagcaagt 540
 tcgtgtacag ccaaagagag ctatttgagc cttggaataa tctgcctaaa tattatata 600
 tactgcacat catgctgggg gagattctca gacactcgat ggatccacc acattcactt 660
 tcaactttta caatgaacct tgggtcagag gacggcatga gacttacctg tgttatgagg 720
 tggagcgcac gcacaatgac acctgggtcc tgctgaacca gcgcaggggc tttctatgca 780
 accaggctcc acataaacac ggtttccttg aaggccgcca tgcagagctg tgcttcctgg 840
 acgtgattcc cttttggaag ctggacctgg accaggacta cagggttacc tgcttcacct 900
 cctggagccc ctgcttcagc tgtgccaggg aaatggctaa attcatttca aaaaacaaac 960
 acgtgagcct gtgcatcttc actgcccgca tctatgatga tcaaggaaga tgtcaggagg 1020
 ggctgcgcac cctggccgag gctggggcca aaatttcaat aatgacatac agtgaattta 1080
 agcactgctg ggacaccttt gtggaccacc agggatgtcc cttccagccc tgggatggac 1140
 tagatgagca cagccaagac ctgagtggga ggctgcgggc cattctccag aatcaggaaa 1200
 actgaaggat gggcctcagt ctctaaggaa ggcagagacc tgggttgagc ctcagaataa 1260
 aagatcttct tccaagaaat gcaaacaggc tgttcaccac catctccagc tgatcacaga 1320
 caccagcaaa gcaatgcact cctgaccaag tagattcttt taaaaattag agtgcattac 1380
 tttgaatcaa aaattttattt atatttcaag aataaagtac taagattgtg ctcaaaaaaa 1440
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 1534

<210> 174
 <211> 384
 <212> PRT
 <213> Homo sapiens

<400> 174
 Met Lys Pro His Phe Arg Asn Thr Val Glu Arg Met Tyr Arg Asp Thr
 1 5 10 15
 Phe Ser Tyr Asn Phe Tyr Asn Arg Pro Ile Leu Ser Arg Arg Asn Thr
 20 25 30
 Val Trp Leu Cys Tyr Glu Val Lys Thr Lys Gly Pro Ser Arg Pro Pro
 35 40 45
 Leu Asp Ala Lys Ile Phe Arg Gly Gln Val Tyr Ser Glu Leu Lys Tyr
 50 55 60
 His Pro Glu Met Arg Phe Phe His Trp Phe Ser Lys Trp Arg Lys Leu
 65 70 75 80
 His Arg Asp Gln Glu Tyr Glu Val Thr Trp Tyr Ile Ser Trp Ser Pro
 85 90 95
 Cys Thr Lys Cys Thr Arg Asp Met Ala Thr Phe Leu Ala Glu Asp Pro
 100 105 110

126

Lys Val Thr Leu Thr Ile Phe Val Ala Arg Leu Tyr Tyr Phe Trp Asp
 115 120 125
 Pro Asp Tyr Gln Glu Ala Leu Arg Ser Leu Cys Gln Lys Arg Asp Gly
 130 135 140
 Pro Arg Ala Thr Met Lys Ile Met Asn Tyr Asp Glu Phe Gln His Cys
 145 150 155 160
 Trp Ser Lys Phe Val Tyr Ser Gln Arg Glu Leu Phe Glu Pro Trp Asn
 165 170 175
 Asn Leu Pro Lys Tyr Tyr Ile Leu Leu His Ile Met Leu Gly Glu Ile
 180 185 190
 Leu Arg His Ser Met Asp Pro Pro Thr Phe Thr Phe Asn Phe Asn Asn
 195 200 205
 Glu Pro Trp Val Arg Gly Arg His Glu Thr Tyr Leu Cys Tyr Glu Val
 210 215 220
 Glu Arg Met His Asn Asp Thr Trp Val Leu Leu Asn Gln Arg Arg Gly
 225 230 235 240
 Phe Leu Cys Asn Gln Ala Pro His Lys His Gly Phe Leu Glu Gly Arg
 245 250 255
 His Ala Glu Leu Cys Phe Leu Asp Val Ile Pro Phe Trp Lys Leu Asp
 260 265 270
 Leu Asp Gln Asp Tyr Arg Val Thr Cys Phe Thr Ser Trp Ser Pro Cys
 275 280 285
 Phe Ser Cys Ala Gln Glu Met Ala Lys Phe Ile Ser Lys Asn Lys His
 290 295 300
 Val Ser Leu Cys Ile Phe Thr Ala Arg Ile Tyr Asp Asp Gln Gly Arg
 305 310 315 320
 Cys Gln Glu Gly Leu Arg Thr Leu Ala Glu Ala Gly Ala Lys Ile Ser
 325 330 335
 Ile Met Thr Tyr Ser Glu Phe Lys His Cys Trp Asp Thr Phe Val Asp
 340 345 350
 His Gln Gly Cys Pro Phe Gln Pro Trp Asp Gly Leu Asp Glu His Ser
 355 360 365
 Gln Asp Leu Ser Gly Arg Leu Arg Ala Ile Leu Gln Asn Gln Glu Asn
 370 375 380

<210> 175

<211> 3005

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (1407)

<400> 175

aaagaagttg	tacgaaggtc	aaagaaattg	tctgttccag	cctcagtggt	gtcaggagata	60
atgggaagag	gaggatgcaa	catcactgca	atacrkgatg	ttactgggtgc	ccatattgat	120
gtggataaac	aaaaagataa	gaatggcgag	agaatgatca	caataagggg	tggcacagaa	180
tcaacaagat	atgcagttca	actaatcaat	gcactcattc	aagatcctgc	taaggaactg	240
gaagacttga	ttcctaataa	tcatatcaga	acacctgcca	gcaccaaatc	aattcatgct	300
aactttctcat	ctggagtagg	taccacagca	gcttccagta	aaaatgcatt	tcctttgggt	360
gctccaactc	ttgtaacttc	acaggcaaca	acgttatcta	cgttccagcc	cgctaataaa	420
cttaataaga	atgttccaac	aatgtacgt	tcttctttcc	cagtttctct	acccttagct	480
tatcctcacc	ctcatttttg	cctgctggct	gctcaacta	tgcaacagat	tcggcatcct	540
cgcttaccga	tggcccagtt	tggagggaacc	ttctcacctt	ctcctaacac	atggggacca	600
ttcccagtg	gacctgtgaa	tcttggaac	acaaatagct	ctccaaagca	taataacaca	660
agccgtctac	ctaaccagaa	cgggactggt	ttaccctcag	agtctgctgg	actagctact	720
gccagttgtc	ctatcactgt	ctcttctgta	gttgctgcca	gtcagcaact	gtgtgtcact	780
aatacccgga	ctccttcattc	agtcagaaag	cagttgtttg	cctgtgtgcc	taagacaagt	840
cctccagcaa	cagtgttttc	ttctgtgaca	agcacttgta	gttccctgcc	ttctgtctcc	900
tctgcaccta	tcactagcgg	gcaagctccc	accacatttc	tacctgcaag	tacttctcaa	960
gcacagcttt	cttcacaaaa	gatggagtct	ttctctgctg	tgccaccac	caaagagaaa	1020
gtgtccacac	aggaccagcc	catggcaaac	ctatgtaccc	catcttcaac	tgcaaacagt	1080
tgcagttagct	ctgccagcaa	caccccgga	gctccagaaa	ctcaccatc	cagttagtccc	1140
actcctactt	ccagtaaac	acaagaggag	gcacagccat	ccagtgtgtc	tgatttaagt	1200
cctatgtcaa	tgcctttttg	atctaactca	gaacctgtct	cattgacttt	gacatcacc	1260
agaatgggtg	ctgctgataa	tcaggacacc	agtaattttac	ctcagtttagc	tgtaccagca	1320
cctcgagtgt	ctcatcgaa	gcagcccaga	ggttcttttt	actccatggg	accaaaatgca	1380
actattcacc	aggatcccca	gtctatnttt	gttacgaatc	cagttacttt	aacaccacct	1440
caaggcccac	cagctgcagt	gcagctttct	tcagctgtga	acattatgaa	tggttctcag	1500
atgcacataa	accagcaaa	taagtctttg	ccacctacat	ttggcccagc	cacacttttc	1560
aatcacttca	gcagtctttt	tgatagtagt	caggtgccag	ctaaccaggg	ctggggagat	1620
ggtccactgt	cctcacgagt	tgctacagat	gcctctttca	ctgttcagtc	agcgttcctg	1680
ggttaactcag	tgcttggaca	cttggaaaac	atgcaccctg	ataactcaa	ggcacctggc	1740
ttcagaccac	cttcccagcg	agtttctact	agtccagttg	ggttaccatc	cattgaccac	1800
tcaggcagct	ccccatcttc	ctcttctgct	cctctggcaa	gtttttcccg	cataccagga	1860
acaaggggtt	tcctgcaagg	gccagctcct	ggtgggactc	ctagtttcaa	cagacaacat	1920
ttttctcccc	atccttggac	aagcgctca	aactcatcca	cttctgcccc	accaacgttg	1980
ggccaaccaa	aaggagtcag	tgccagtcaa	gatcgaaaga	tacctcccc	aattggaaca	2040
gagagactgg	cccgaattcg	gcaaggaggg	tctgttgccac	aagccccggc	ggggaccagt	2100
tttgtcgctc	ccgttggaca	cagtgggaatc	tggtcatttg	gtgtcaatgc	tgtgtcagaa	2160
ggcttatcag	ggttggctgca	atctgtgatg	gggaaccatc	caatgcatca	acaattatca	2220
gacccaagca	cattctccca	acatcagcca	atggagagag	atgattctgg	aatggtagcc	2280
ccctctaaca	tttttcatca	gcctatggca	agtgggtttg	tggttttttc	taaaggtctg	2340
ccaattttcca	tgatggaggg	caccataata	ccctctcatc	ctcagcttgc	tgatgttcca	2400
ggaggccctc	tggttaaatg	acttcacaat	ccagatcctg	cttggaaacc	tatgataaaa	2460
ggtatccaaa	attcaactga	atgcactgat	gccagcaga	tttggcctgg	cacgtgggca	2520
cctcatattg	gaaacatgca	tctcaaata	gtcaactaag	ttagaaggtc	tttactcttt	2580
agccttggtt	aagaaacctt	tgaccttgga	agaacctagg	ggattttttt	ttaatgtgcc	2640
taagaaattt	tctctgaggg	tttagcaatg	gaaatttgat	tgccatttgt	ataagaacaa	2700
attgatttcc	tatccacctg	attatgttct	ctggttagtt	tagccatttt	gaacttaaga	2760
tcatatgacc	ttagtgcttt	tggtctaaaca	tacagaatac	tacttgtatg	cagaagagaa	2820
ttagttgatt	acatgttttc	accttttagg	gtgataaata	catgtataat	tgtttacata	2880
cttaaaagga	aaaagttgag	taaatttctt	gtcatatagt	ggctctacgt	aatgtagcct	2940
gtattaatgt	gaaatattta	ccagaatatt	caataaaaag	atgaacagtc	aaaaaaaaaa	3000
aaaaa						3005

<210> 176

<211> 832

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (12)

<220>

128,

<221> UNSURE

<222> (449)

<400> 176

Met Gly Arg Gly Gly Cys Asn Ile Thr Ala Ile Xaa Asp Val Thr Gly
 1 5 10 15

Ala His Ile Asp Val Asp Lys Gln Lys Asp Lys Asn Gly Glu Arg Met
 20 25 30

Ile Thr Ile Arg Gly Gly Thr Glu Ser Thr Arg Tyr Ala Val Gln Leu
 35 40 45

Ile Asn Ala Leu Ile Gln Asp Pro Ala Lys Glu Leu Glu Asp Leu Ile
 50 55 60

Pro Lys Asn His Ile Arg Thr Pro Ala Ser Thr Lys Ser Ile His Ala
 65 70 75 80

Asn Phe Ser Ser Gly Val Gly Thr Thr Ala Ala Ser Ser Lys Asn Ala
 85 90 95

Phe Pro Leu Gly Ala Pro Thr Leu Val Thr Ser Gln Ala Thr Thr Leu
 100 105 110

Ser Thr Phe Gln Pro Ala Asn Lys Leu Asn Lys Asn Val Pro Thr Asn
 115 120 125

Val Arg Ser Ser Phe Pro Val Ser Leu Pro Leu Ala Tyr Pro His Pro
 130 135 140

His Phe Ala Leu Leu Ala Ala Gln Thr Met Gln Gln Ile Arg His Pro
 145 150 155 160

Arg Leu Pro Met Ala Gln Phe Gly Gly Thr Phe Ser Pro Ser Pro Asn
 165 170 175

Thr Trp Gly Pro Phe Pro Val Arg Pro Val Asn Pro Gly Asn Thr Asn
 180 185 190

Ser Ser Pro Lys His Asn Asn Thr Ser Arg Leu Pro Asn Gln Asn Gly
 195 200 205

Thr Val Leu Pro Ser Glu Ser Ala Gly Leu Ala Thr Ala Ser Cys Pro
 210 215 220

Ile Thr Val Ser Ser Val Val Ala Ala Ser Gln Gln Leu Cys Val Thr
 225 230 235 240

Asn Thr Arg Thr Pro Ser Ser Val Arg Lys Gln Leu Phe Ala Cys Val
 245 250 255

Pro Lys Thr Ser Pro Pro Ala Thr Val Ile Ser Ser Val Thr Ser Thr
 260 265 270

Cys Ser Ser Leu Pro Ser Val Ser Ser Ala Pro Ile Thr Ser Gly Gln
 275 280 285

Ala Pro Thr Thr Phe Leu Pro Ala Ser Thr Ser Gln Ala Gln Leu Ser
 290 295 300

Ser Gln Lys Met Glu Ser Phe Ser Ala Val Pro Pro Thr Lys Glu Lys
 305 310 315 320
 Val Ser Thr Gln Asp Gln Pro Met Ala Asn Leu Cys Thr Pro Ser Ser
 325 330 335
 Thr Ala Asn Ser Cys Ser Ser Ser Ala Ser Asn Thr Pro Gly Ala Pro
 340 345 350
 Glu Thr His Pro Ser Ser Ser Pro Thr Pro Thr Ser Ser Asn Thr Gln
 355 360 365
 Glu Glu Ala Gln Pro Ser Ser Val Ser Asp Leu Ser Pro Met Ser Met
 370 375 380
 Pro Phe Ala Ser Asn Ser Glu Pro Ala Pro Leu Thr Leu Thr Ser Pro
 385 390 395 400
 Arg Met Val Ala Ala Asp Asn Gln Asp Thr Ser Asn Leu Pro Gln Leu
 405 410 415
 Ala Val Pro Ala Pro Arg Val Ser His Arg Met Gln Pro Arg Gly Ser
 420 425 430
 Phe Tyr Ser Met Val Pro Asn Ala Thr Ile His Gln Asp Pro Gln Ser
 435 440 445
 Xaa Phe Val Thr Asn Pro Val Thr Leu Thr Pro Pro Gln Gly Pro Pro
 450 455 460
 Ala Ala Val Gln Leu Ser Ser Ala Val Asn Ile Met Asn Gly Ser Gln
 465 470 475 480
 Met His Ile Asn Pro Ala Asn Lys Ser Leu Pro Pro Thr Phe Gly Pro
 485 490 495
 Ala Thr Leu Phe Asn His Phe Ser Ser Leu Phe Asp Ser Ser Gln Val
 500 505 510
 Pro Ala Asn Gln Gly Trp Gly Asp Gly Pro Leu Ser Ser Arg Val Ala
 515 520 525
 Thr Asp Ala Ser Phe Thr Val Gln Ser Ala Phe Leu Gly Asn Ser Val
 530 535 540
 Leu Gly His Leu Glu Asn Met His Pro Asp Asn Ser Lys Ala Pro Gly
 545 550 555 560
 Phe Arg Pro Pro Ser Gln Arg Val Ser Thr Ser Pro Val Gly Leu Pro
 565 570 575
 Ser Ile Asp Pro Ser Gly Ser Ser Pro Ser Ser Ser Ser Ala Pro Leu
 580 585 590
 Ala Ser Phe Ser Gly Ile Pro Gly Thr Arg Val Phe Leu Gln Gly Pro
 595 600 605
 Ala Pro Val Gly Thr Pro Ser Phe Asn Arg Gln His Phe Ser Pro His
 610 615 620
 Pro Trp Thr Ser Ala Ser Asn Ser Ser Thr Ser Ala Pro Pro Thr Leu
 625 630 635 640

130

Gly Gln Pro Lys Gly Val Ser Ala Ser Gln Asp Arg Lys Ile Pro Pro
 645 650 655
 Pro Ile Gly Thr Glu Arg Leu Ala Arg Ile Arg Gln Gly Gly Ser Val
 660 665 670
 Ala Gln Ala Pro Ala Gly Thr Ser Phe Val Ala Pro Val Gly His Ser
 675 680 685
 Gly Ile Trp Ser Phe Gly Val Asn Ala Val Ser Glu Gly Leu Ser Gly
 690 695 700
 Trp Ser Gln Ser Val Met Gly Asn His Pro Met His Gln Gln Leu Ser
 705 710 715 720
 Asp Pro Ser Thr Phe Ser Gln His Gln Pro Met Glu Arg Asp Asp Ser
 725 730 735
 Gly Met Val Ala Pro Ser Asn Ile Phe His Gln Pro Met Ala Ser Gly
 740 745 750
 Phe Val Asp Phe Ser Lys Gly Leu Pro Ile Ser Met Tyr Gly Gly Thr
 755 760 765
 Ile Ile Pro Ser His Pro Gln Leu Ala Asp Val Pro Gly Gly Pro Leu
 770 775 780
 Phe Asn Gly Leu His Asn Pro Asp Pro Ala Trp Asn Pro Met Ile Lys
 785 790 795 800
 Val Ile Gln Asn Ser Thr Glu Cys Thr Asp Ala Gln Gln Ile Trp Pro
 805 810 815
 Gly Thr Trp Ala Pro His Ile Gly Asn Met His Leu Lys Tyr Val Asn
 820 825 830

<210> 177

<211> 1561

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (1150)

<400> 177

gagaaggaag ggaagccgga aggggcgcgga gtgaagcaaa gcgaggacag acagctccca 60
 gagggcgagg ggtgcggtg cgcccgcttc tcacctcagg tctcccttcg gccccgctgc 120
 cctccctcgc ggctgggtga cagctgggtc cggctccgtc cggggtgcct ggggtgcgag 180
 gatcgcgcac cccgtcttcg cgcgctgtgc ctgccgcccc gccccctcgt cccgcccgtc 240
 ccgtcgcgtc gcgtcccgtc ccctcgggtg ctgccagccg ggtgctgatg cgagtcggtg 300
 gcagcgagga cattttctga ctccctggcc cctgacacgg ctgcactttc catcccgtcg 360
 cggggccggc cgctactcgc gccccaggat gcagaatgtg attaatactg tgaagggaaa 420
 ggcactggaa gtggctgagt acctgacccc ggtcctcaag gaatcaaagt ttaaggaaac 480
 aggtgtaatt accccagaag agtttgtggc agctggagat cacctagtcc accactgtcc 540
 aacatggcaa tgggctacag ggggaagaatt gaaagtgaag gcatacctac caacaggcaa 600
 acaatttttg gtaacaaaa atgtgccgtg ctataagcgg tgcaaacaga tggaatatc 660
 agatgaattg gaagctatca gtgaagaaga tgatgggtgat ggcggatggg tagatacata 720
 tcacaacaca ggtattacag gaataacgga agccgttaaa gagatcacac tggaaaataa 780
 ggacaatata aggcttcaag attgctcagc actatgtgaa gaggaagaag atgaagatga 840

131

```

aggagaagct gcagatatgg aagaatatga agagagtgga ttgttggaaa cagatgaggc 900
taccctagat acaaggaaaa tagtagaagc ttgtaaagcc aaaactgatg ctggcggtga 960
agatgctatt ttgcaaacca gaacttatga cctttacatc acttatgata aatattacca 1020
gactccacga ttatgggtgt ttggctatga tgagcaacgg cagcctttaa cagttgagca 1080
catgtatgaa gacatcagtc aggatcatgt gaagaaaaaca gtgaccattg aaaatcacc 1140
tcctctgccn ccacctccca tgtgttcagt tcacccatgc aggcattgctg aggtgatgaa 1200
gaaaatcatt gagactgttg cagaaggagg gggagaactt ggagttcata tgtatcttct 1260
tattttcttg aaatttgtac aagctgtcat tccaacaata gaatatgact acacaagaca 1320
cttcacaatg taatgaagag agcataaaat ctatcctaata tattggttct gatttttaaa 1380
gaattaaccc atagatgtga ccattgacca tattcatcaa tatatacagt ttctctaata 1440
agggacttat atgtttatgc attaaataaa aatatgttcc actaccagcc ttatttgttt 1500
aataaaaaatc agtgcaaaaga gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1560
a                                                                                   1561

```

<210> 178

<211> 314

<212> PRT

<213> Homo sapiens

<400> 178

```

Met Gln Asn Val Ile Asn Thr Val Lys Gly Lys Ala Leu Glu Val Ala
  1             5             10             15

```

```

Glu Tyr Leu Thr Pro Val Leu Lys Glu Ser Lys Phe Lys Glu Thr Gly
      20             25             30

```

```

Val Ile Thr Pro Glu Glu Phe Val Ala Ala Gly Asp His Leu Val His
    35             40             45

```

```

His Cys Pro Thr Trp Gln Trp Ala Thr Gly Glu Glu Leu Lys Val Lys
    50             55             60

```

```

Ala Tyr Leu Pro Thr Gly Lys Gln Phe Leu Val Thr Lys Asn Val Pro
    65             70             75             80

```

```

Cys Tyr Lys Arg Cys Lys Gln Met Glu Tyr Ser Asp Glu Leu Glu Ala
      85             90             95

```

```

Ile Ser Glu Glu Asp Asp Gly Asp Gly Gly Trp Val Asp Thr Tyr His
    100            105            110

```

```

Asn Thr Gly Ile Thr Gly Ile Thr Glu Ala Val Lys Glu Ile Thr Leu
    115            120            125

```

```

Glu Asn Lys Asp Asn Ile Arg Leu Gln Asp Cys Ser Ala Leu Cys Glu
    130            135            140

```

```

Glu Glu Glu Asp Glu Asp Glu Gly Glu Ala Ala Asp Met Glu Glu Tyr
    145            150            155            160

```

```

Glu Glu Ser Gly Leu Leu Glu Thr Asp Glu Ala Thr Leu Asp Thr Arg
    165            170            175

```

```

Lys Ile Val Glu Ala Cys Lys Ala Lys Thr Asp Ala Gly Gly Glu Asp
    180            185            190

```

```

Ala Ile Leu Gln Thr Arg Thr Tyr Asp Leu Tyr Ile Thr Tyr Asp Lys
    195            200            205

```

```

Tyr Tyr Gln Thr Pro Arg Leu Trp Leu Phe Gly Tyr Asp Glu Gln Arg
    210            215            220

```

132

Gln Pro Leu Thr Val Glu His Met Tyr Glu Asp Ile Ser Gln Asp His
 225 230 235 240

Val Lys Lys Thr Val Thr Ile Glu Asn His Pro His Leu Pro Pro Pro
 245 250 255

Pro Met Cys Ser Val His Pro Cys Arg His Ala Glu Val Met Lys Lys
 260 265 270

Ile Ile Glu Thr Val Ala Glu Gly Gly Gly Glu Leu Gly Val His Met
 275 280 285

Tyr Leu Leu Ile Phe Leu Lys Phe Val Gln Ala Val Ile Pro Thr Ile
 290 295 300

Glu Tyr Asp Tyr Thr Arg His Phe Thr Met
 305 310

<210> 179

<211> 2379

<212> DNA

<213> Homo sapiens

<400> 179

```

atttagttac acatagacat aactcttcaa ccttaactat ggcaatacat ttgtgcttta 60
actgtttacat agcagtatca ccacttacca ggatccaaat cgaaataata aaagctgtct 120
ccatagtttta aaatcgaata gtgccatcat cacagtatat tagtcaaata gaagcttcat 180
cagaaatgta tcccacatag agttttaaga cttggattct cttctgccct tgttaatctc 240
caactaatta ctacagattg acacgttttt aattagctgt cttttgtaag aagtcaggaa 300
atctgatgct gtgtccaaaa ttatgcactg ttgttgaag tagaaccaga aatcctgacc 360
tcctgttaaa tgacatcagt ttccccctct gagcaacaga ctgcttgtct tgctaggaga 420
ggaggatggg gggctgagca ctcaggctgt ccattgaaac cccttgtcca tgaatagggt 480
catactccta agactgatgg ggtgttgatc ttctaggaca tcaattgttt attcagtgcc 540
ccaaacacag atttctcttc tagcacttta gaattgatcc ttgaagtctc tcctggttca 600
ttcaaataca agctgtgtga gtctgggtgg tttctgtgat tgggtctaag tgagctcttt 660
gaacagacag atctgacagt ggaatgactc tccccgtctt ctggcataac tgctttgcct 720
ctgtctagtg tccaagcatc ttagctgttc aagaggagag ggcagcataa cttcctgacc 780
actggtgtca gatatacagc cattctggac tcctgagagg cagtggcctc ttgagtgaac 840
aggggaggcc agtagatgcc ccagatccag agccgtggct gcaaatccag caggaataag 900
gagggacaac cacagcctcc tcatccatgt gtcatttcca agggtttgcc ttgtgtctca 960
gtcattctct ggcagcacgt ttgtcttctg tccctagaga tttgaaggat tttggactct 1020
tgtgaatggg tgactggact tggctttaca gagttgggtg tttttttctc tctgcaatta 1080
cctgtcatag ctttttgtgc tcaccacgaa ggatgggtct tgccttctct tgtcgggtga 1140
tgccatctga acctaggaac acaaagtata ttggcctcaa acgggagacc cagggttgcc 1200
agttttccgt gggccttccc ctcccttgaa atgtctttta ttacctcccc ttcactcgtca 1260
ggccacgtgt gacttctgtt cttagcactg ccagggtcat tgacttccat ctaagcttgc 1320
atcaggaaga tgttccttct gtgatcattg gtactgaagc cagaaaagct ctcattcagg 1380
aactctgaag agcaaaaagg gacaaacact aactgctgag ctgggccatt tgatctcctt 1440
tcaccttgca ttgctgtcac agcacctgt atgatggcag gacaggctcc agcagagaga 1500
actgcacagt gaccactgta tttttcacgc tcttccaggg atccctgtcc cccgacattg 1560
aagagatctc attcaggcca gagacacaga gaccacatag ccagtgatt aaaccccggt 1620
ttcactctgg ccccaggagt ggagcctggc cactcctgtt tgggttctcac tgggaggccc 1680
actggccttg gatcatctcc tcatgcacac ccggagtgtt acctgcttgc ttgctttcct 1740
ggactgctgt ttgcaagaaa gtaactaaaa catgaaaagt aaacctccag cttccacagt 1800
atattacctg ccgttgcatg catttgaaag ttagcctcct cccttgccac cgtcttggtg 1860
gcagtatgca tgcaagaatg atgggagctt tccgagagcg ttcagtgttt cactgaagac 1920
aggaccata gccttcattt ctggctctgt gtctcctctg gcatatggac acatttcctg 1980
gcatttgcct gagtctacac cactttttga gaacctgaaa tagaaggga tcttctgtgg 2040
cccacagtct ccatattggc cctagaagac tggcctggcg gaggaatttg cgttggcttg 2100
ctttcagggg ttagctacaa gattcagctt tatactctg ttgcttcttg gccagtgtag 2160
tcaataaggg tcttctttta catctaagat agaggtttgg ttggccgggc gtggctgctw 2220

```


133

actcctgtaa tcccagcact ttgggaggcc cagtgaggtg ggagaattgc ttgaacccag 2280
 gaggcagagg ttgcagttag ctgagattgc accattgcat tccagcctgg gtaacagagt 2340
 gagactcttg tctcaaaaaa aaaaaaaaaa aaaaaaaaaa 2379

<210> 180

<211> 67

<212> PRT

<213> Homo sapiens

<400> 180

Met Gly Asp Trp Thr Trp Leu Tyr Arg Val Gly Cys Phe Phe Leu Ser
 1 5 10 15

Ala Ile Thr Cys His Ser Ile Leu Cys Ser Pro Arg Arg Met Val Ser
 20 25 30

Ala Phe Ser Cys Arg Cys Met Pro Ser Glu Pro Arg Asn Thr Lys Tyr
 35 40 45

Ile Gly Leu Lys Arg Glu Thr Gln Gly Cys Gln Phe Ser Val Gly Leu
 50 55 60

Pro Leu Pro
 65

<210> 181

<211> 1607

<212> DNA

<213> Homo sapiens

<400> 181

atacaagtca agatgctacc catgtagaca cactgtatatt ttaaggtggg caagtgcgat 60
 taacgatgaa ccatttttaa ggggagggtta ttgaaacct ctaatttgat tattgggagg 120
 attttcatgc tttcttttagt atttattacc atcataccga ttcaaactat tttattgtct 180
 aatacattag cattttgtat tttgatggaa attgttacag aatttaaaga tttgatgaaa 240
 taagatgtag cagatttttt gtagcaagtt tctggtaaaa gggttttttg caagtctcag 300
 gttcttgctg cactattttt ttttaaataat ttattccagt tattctaatt cagaagcatt 360
 cttttcaagt aacagcagca cttgtgaaag gaaaaaaaaa tgcacatggt tcttagtagg 420
 ttactaaatt tgtacaatta attaagattt tagccatcag tgagtttgaa aagggaatg 480
 tattttattt cagcattaaa atgcttccaa aagatcaagt tgcttttgtt tgtttgtttt 540
 ttaaccgta atgtagatgg agaaattgga ggcaacctca gtataggaac tgccactttg 600
 agcagtttag gtcttaaaga gaaagtcaat ctaatgccaa ggggagaaca atgagctgaa 660
 attgtaccaa ctctcttggc ctccttccc tcaattaaaa aaacacactt accagttttg 720
 cttattttac agatatctgg tggttctata gtttaaagca gcttgtgaaa ttaaaaaagt 780
 ggactcaatt ttgtttacct ttctgtaagt ttttcatttt tgctgtatag cattggcaaa 840
 aatatgtaca aattgacctc tgttcttatt tcctattgtg agcattataa agataagctc 900
 ctatgtaaaa ccttgctctc agatgagtaa aatatgtatc acagcatagc tcagcaataa 960
 ttcatgctca gctgtgggga ccctggggggc tttttgaaga tgatggaacc gcactagggt 1020
 tgaaactgat ggctgtggag ttaatttgtt tttcgagctt gaatctcacc tgtgattttt 1080
 tttttttaat gttgtttcat gacttgattt ttctcataag ccaatgtatt tgtaggttta 1140
 ctggatttta tttttaggga gtgggtaatt tcttcccttt tttgattaag ttgggttcagc 1200
 tatggtgcta ttcagtaggt atcttcagtg tcaggtcccg tagctgaatg ccattgttat 1260
 tataattatt atttgaatc acattgtaag cttgaatttg ggcttgwacc tgcattctttt 1320
 gtattctgta catctgggta cttagacttt gggagtccaa tttgggttca gtcattgtatg 1380
 tctactttgt agtttaagta gacttcatca actatggctt attttgggtt tgtagtttta 1440
 atttagaatt gtgttaaatt gatgttttgc atttgacttc atttgacatt agttgaagta 1500
 aattatttaa tttttgaatt ctggaatttg aacatttact gtaatttgta atataactgc 1560
 tgtgaaatac ttgaataaag atgacaagaa aaaaaaaaaa aaaaaaa 1607

<210> 182

<211> 58

134

<212> PRT

<213> Homo sapiens

<400> 182

Met Tyr Leu Phe Ser Ala Leu Lys Cys Phe Gln Lys Ile Lys Leu Leu
 1 5 10 15

Leu Phe Val Cys Phe Phe Asn Arg Asn Val Asp Gly Glu Ile Gly Gly
 20 25 30

Asn Leu Ser Ile Gly Thr Ala Thr Leu Ser Ser Leu Gly Leu Lys Glu
 35 40 45

Lys Val Asn Leu Met Pro Arg Gly Glu Gln
 50 55

<210> 183

<211> 2695

<212> DNA

<213> Homo sapiens

<400> 183

gaacagagta gtagccaggc aatgtttctca taataaacag aaaaggaaaa gaaactccaa 60
 tgtggaaacc atctcaaacc tctgtgtgaa gtctaccaat tttctgttaa tcaaagcaag 120
 ctatgtgagt gtactcagag tccaggggca aggtagtcac cctgtgtgtg gtgggaaaaat 180
 actgcaagat tatatgtcaa ataatgggat actcaggaat atttacaaaa atgttgaaata 240
 ttttaaatgaa ataacaaata tttagacatt caatagactt gagagtaact ttaccaaggg 300
 tctaagtatg agagatatgt ttaatatatt tttatgggct gaaaaccctg agtgggaaaa 360
 taggactaat ttcaccagga tgacctcctg gaaatgcatt ttccattttg gaaattatatt 420
 taaaagttca ttttttctgg atgggtatgt gtatgtgtgt gtgtctgtcy aygtgtgtat 480
 gttttatgag cttgttaaca ctaatgtcat acaaaagtac tggttagcag gaataagatt 540
 ttaaggtgta ttggcattcc catggttccc aagaaaattt tagatgactt tgattaaaaa 600
 gtttggaattt tgtctattta aatctagcat aaaaatttgt catggtgatg atcctagtta 660
 tgactaatct ccctttaaga tttaggcatt tactgtgtga aatatgtggc acattttcca 720
 taacaaacag cttaaagttac tgaacacaaa ttatggaaag gtgaaatgag gaaaacattg 780
 caaaacactg aaagagaata tgtctttatt tgcattgtgg caaatgaaaa ttccgggtttc 840
 acttctactt cagtatctaa caagtctcta acaagaacag acattgaatg aatgaattaa 900
 gttgagctgt ttgaaaatta gaatgttttc cataaatata ttattgaact atcaatttagc 960
 ataaactgct actttcttgt ttgacactgg tcacagtatt tgaaagtaaa aagaattgta 1020
 ctgcacattc agaaatcagg tccacataaa atttaaggtc aggatattaa aggatcacag 1080
 ccagtgtgtg taggccttca tttattctat ctttttgtct gttcagacat gataactttt 1140
 ctacccatca ttttttccat tctagttagt gttacatttg ttcttgggaa ttttgctaata 1200
 ggcttcatag tgttggtaaa ttccattgag tgggtcaaga gacaaaagat ctcccttgct 1260
 gaccaaattc tcaactgtct ggaggtctcc agagttgggt tgctctgggt aatattatwa 1320
 cattgggtatg caactgtttt gaatccagggt tcatatagtt taggagtaag aattactact 1380
 attaatgcct gggctgtaac caaccatttc agcatctggg ttgctactag cctcagcata 1440
 ttttatttgc tcaagattgc caatttctcc aactttattt ttcttcactt aaaaaggaga 1500
 attaagagtg tcattccagt gatactattg gggctcttgt tatttttggt ttgtcatctt 1560
 gttgtggtaa acatggatga gagtatgtgg acaaaagaat atgaaggaaa cgtgagttgg 1620
 gagatcaaat tgagtgatcc gacgcacctt tcagatatga ctgtaaccac gcttgcaaac 1680
 ttaataccct ttactctgtc cctgttatct tttctgtctt taatctgttc tttgtgtaaa 1740
 catctcaaga agatgcagtt ccatggcaaa ggatctccag attccaacac caaggtccac 1800
 ataaaagctt tgcaaacggg gacctccttc ctcttggtat ttgctgttta ctttctgtcc 1860
 ctaatcacat cgatttggaa ttttaggagg aggctgtaga acgaacctgt cctcatgctc 1920
 agccaaacta ctgcaattat atacccttca tttcattcat tcatcctaata ttgggggaagc 1980
 aagaagctga aacagacctt tcttttgatt ttgtgtcaga ttaagtgtc agtaaaaagac 2040
 ctgaaactct caaatttcta gattcacaag tgggacatcg tgtgtctcca agagaaaaca 2100
 aactgatgtt gtctggaaca ttttataact tccactgggt tttctgtatt gtatgttttt 2160
 gagtaatttc caaaagtata tctagaaaag tcttttacct taaagttagt ctaaaaaggt 2220
 atctatatak gcatgtgtat ggtgtatatg aaacacttaa gagagagtgg caataacata 2280
 atcattttttw acaaactgcc aaattataga aaatattgta agaaattttt cagaatcatg 2340

135

```

aagccatgtg tattcacaat acagttcata ttatcatgtt tcatttgaaa aatttatgat 2400
ctctatttat aattgttaag aacttacagc ttatttcaca aaatcattgc tcttttccac 2460
tggtatttgg accatacgta tgtaccatag tgtgcttaaa cgtgattatt tgaacgtcta 2520
gttttttggg tggtatgcgc attctaattc aaatcaataa tgaagtttta tctttggggg 2580
agtttttggg gcataatgaa ttctaatttt atgtttaatt taaagcaaac aattattggt 2640
agaaaactat gcacaaaata aaattcaagg atgaaaaata aaaaaaaaaa aaaaaa 2695

```

<210> 184

<211> 256

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (64)

<400> 184

```

Met Ile Thr Phe Leu Pro Ile Ile Phe Ser Ile Leu Val Val Val Thr
  1                      5                      10                      15

```

```

Phe Val Leu Gly Asn Phe Ala Asn Gly Phe Ile Val Leu Val Asn Ser
      20                      25                      30

```

```

Ile Glu Trp Val Lys Arg Gln Lys Ile Ser Phe Ala Asp Gln Ile Leu
    35                      40                      45

```

```

Thr Ala Leu Ala Val Ser Arg Val Gly Leu Leu Trp Val Ile Leu Xaa
    50                      55                      60

```

```

His Trp Tyr Ala Thr Val Leu Asn Pro Gly Ser Tyr Ser Leu Gly Val
    65                      70                      75                      80

```

```

Arg Ile Thr Thr Ile Asn Ala Trp Ala Val Thr Asn His Phe Ser Ile
      85                      90                      95

```

```

Trp Val Ala Thr Ser Leu Ser Ile Phe Tyr Leu Leu Lys Ile Ala Asn
    100                      105                      110

```

```

Phe Ser Asn Phe Ile Phe Leu His Leu Lys Arg Arg Ile Lys Ser Val
    115                      120                      125

```

```

Ile Pro Val Ile Leu Leu Gly Ser Leu Leu Phe Leu Val Cys His Leu
    130                      135                      140

```

```

Val Val Val Asn Met Asp Glu Ser Met Trp Thr Lys Glu Tyr Glu Gly
    145                      150                      155                      160

```

```

Asn Val Ser Trp Glu Ile Lys Leu Ser Asp Pro Thr His Leu Ser Asp
    165                      170                      175

```

```

Met Thr Val Thr Thr Leu Ala Asn Leu Ile Pro Phe Thr Leu Ser Leu
    180                      185                      190

```

```

Leu Ser Phe Leu Leu Leu Ile Cys Ser Leu Cys Lys His Leu Lys Lys
    195                      200                      205

```

```

Met Gln Phe His Gly Lys Gly Ser Pro Asp Ser Asn Thr Lys Val His
    210                      215                      220

```

```

Ile Lys Ala Leu Gln Thr Val Thr Ser Phe Leu Leu Leu Phe Ala Val
    225                      230                      235                      240

```

136.

Tyr Phe Leu Ser Leu Ile Thr Ser Ile Trp Asn Phe Arg Arg Arg Leu
 245 250 255

<210> 185
 <211> 1111
 <212> DNA
 <213> Homo sapiens

<400> 185
 gccgagcgcc gccgccgaag cttccgtctc gctcgctcgc gcagcggcgg cagcagaggt 60
 cgcgcacaga tgcgggttag actggcgggg ggaggaggcg gaggagggaa ggaagctgca 120
 tgcattgagac ccacagactc ttgcaagctg gatgccctct gtggatgaaa gatgtatcat 180
 ggaatgaacc cgagcaatgg agatggattt ctagagcagc agcagcagca gcagcaacct 240
 cagccccccc agagactctt ggccgtgatc ctgtggtttc agctggcgct gtgcttcggc 300
 cctgcacagc tcacgggcgg gttcgatgac cttcaagtgt gtgctgacct cggcattccc 360
 gagaatggct tcaggacccc cagcggagggg gttttctttg aaggctctgt agcccgattt 420
 cactgccaaag acggattcaa gctgaagggg gctacaaaga gactgtgttt gaagcatttt 480
 aatggaacccc taggctggat cccaagtgat aattccatct gtgtgcaaga agattgccgt 540
 atccctcaaa tcgaagatgc tgagattcat aacaagacat atagacatgg agagaagcta 600
 atcatcactt gtcattgaagg attcaagatc cggtaacccg acctacacaa tatggtttca 660
 ttatgtcgcg atgatggaac gtggaataat ctgcccattc gtcaaggctg cctgagacct 720
 ctagcctctt ctaatggcta tgtaaacatc tctgagctcc agacctcctt cccgggtggg 780
 actgtgatct cctatcgctg ctttcccggg tttaaacttg atgggtctgc gtatcttgag 840
 tgcttacaaa accttatctg gtcgtccagc ccaccccggt gccttgctct ggaaggagga 900
 agacctgaac atcttttccc tgctctttat ttcccacaca tcaggttggc agctgctgtg 960
 ctttatTTTTT gccctgtggt aaagtcctct cccaccccag cacctacctg ttcctcaact 1020
 agcaccacca catctctgtt ctaaattgtt ttctcctgca ataaaggacg tttgaattta 1080
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 1111

<210> 186
 <211> 290
 <212> PRT
 <213> Homo sapiens

<400> 186
 Met Tyr His Gly Met Asn Pro Ser Asn Gly Asp Gly Phe Leu Glu Gln
 1 5 10 15
 Gln Gln Gln Gln Gln Gln Pro Gln Ser Pro Gln Arg Leu Leu Ala Val
 20 25 30
 Ile Leu Trp Phe Gln Leu Ala Leu Cys Phe Gly Pro Ala Gln Leu Thr
 35 40 45
 Gly Gly Phe Asp Asp Leu Gln Val Cys Ala Asp Pro Gly Ile Pro Glu
 50 55 60
 Asn Gly Phe Arg Thr Pro Ser Gly Gly Val Phe Phe Glu Gly Ser Val
 65 70 75 80
 Ala Arg Phe His Cys Gln Asp Gly Phe Lys Leu Lys Gly Ala Thr Lys
 85 90 95
 Arg Leu Cys Leu Lys His Phe Asn Gly Thr Leu Gly Trp Ile Pro Ser
 100 105 110
 Asp Asn Ser Ile Cys Val Gln Glu Asp Cys Arg Ile Pro Gln Ile Glu
 115 120 125
 Asp Ala Glu Ile His Asn Lys Thr Tyr Arg His Gly Glu Lys Leu Ile
 130 135 140

137

Ile Thr Cys His Glu Gly Phe Lys Ile Arg Tyr Pro Asp Leu His Asn
 145 150 155 160
 Met Val Ser Leu Cys Arg Asp Asp Gly Thr Trp Asn Asn Leu Pro Ile
 165 170 175
 Cys Gln Gly Cys Leu Arg Pro Leu Ala Ser Ser Asn Gly Tyr Val Asn
 180 185 190
 Ile Ser Glu Leu Gln Thr Ser Phe Pro Val Gly Thr Val Ile Ser Tyr
 195 200 205
 Arg Cys Phe Pro Gly Phe Lys Leu Asp Gly Ser Ala Tyr Leu Glu Cys
 210 215 220
 Leu Gln Asn Leu Ile Trp Ser Ser Ser Pro Pro Arg Cys Leu Ala Leu
 225 230 235 240
 Glu Gly Gly Arg Pro Glu His Leu Phe Pro Val Leu Tyr Phe Pro His
 245 250 255
 Ile Arg Leu Ala Ala Ala Val Leu Tyr Phe Cys Pro Val Leu Lys Ser
 260 265 270
 Ser Pro Thr Pro Ala Pro Thr Cys Ser Ser Thr Ser Thr Thr Thr Ser
 275 280 285
 Leu Phe
 290

<210> 187
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 187
 antgacttca gttgagggca agtctctgg

29

<210> 188
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 188

tncagaaaga ctgcagggat tcgggacaa

29

<210> 189

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 189

antcatcact acacgtcttc tcccctaca

29

<210> 190

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 190

gnctgagtat gttgtggaat gggctgcaa

29

<210> 191

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 191

tngtgactgt atacctgcaa cctcaatgc

29

<210> 192

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 192
tngccttgac acaggtggca gaagaaact 29

<210> 193
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 193
cngactggta gtgacaccaa gagaatgga 29

<210> 194
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 194
anagcacagc ttagttttca gtgactcca 29

<210> 195
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 195
gcatatactc tgttgcccgc 20

<210> 196
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 196
ctgccactat ccccaggg 18

<210> 197
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 197
antggtgtgc cactcccaac aatctttcc

29

<210> 198
<211> 2505
<212> DNA
<213> Homo sapiens

<400> 198
ccagctcccc actgcctga gggcgggcgg gctgcggcg gagggaaaaa ggaagaggag 60
aaggaaattg tcccgaaatcc ctgcagggtca gtacctggaa gattccataa agtcgggggtg 120
cttgagggcg tagggccgag accgtcgcgg gtactgaggc gcctccgtcg tctctcccac 180
tcgccgcccc ctttccaaga catatgtccc gcttgagcc catttcgatg ctgcgaaacg 240
gtgagctgcg ggggtgtttgg ggaagagctc agagactggg aaatgggaat ctgctgggag 300
cctagggccg caatccggaa agggagctgt ggcctgggtg ttggccccta gtccaccagg 360
acagtgcggg aggggaatgg ctggatatgg gggcgggggg ggtgagatgc aacgcgatat 420
gtcagcagaa cccaagaga ggtaataggg gtgggaaacc tctgacaacc aggcctccga 480
attagaaaag agttttgtgt tctggggact agtccgtcca ccaagcgctc agtggcggca 540
gtttcccgtc tttctgcctg tggctgtgtc gttaggttgc gcacaacgcc aggcaaaaga 600
ccaagcctct cccgggtggc cagtctttct gtaggttgc gcacaacgcc aggcaaaaga 660
agaggaagga atttaatcct aatcgggtgga ggtcgatttg agggctctgt gtagcagggtg 720
gctccgcttg aagcagagga ggaagtcttc tccgatcagt agagattgga aagattgttg 780
ggagtggcac accactaggg aaaagaagaa ggggcgaact gcttgtcttg aggaggtcaa 840
ccccagaat cagctcttgt ggccttgaag tggctgaaga cgatcaccct ccacaggctt 900
gagcccgatc ccacagcctt cctccccag cctgagtgac tactctattc cttggtccct 960
gctattgtcg gggcggttg catgggctac gccaggaag taggctgggt gaccgcaggc 1020
ctggtgattg gggctggcgc ctgctattgc atttatagac tgactagggg aagaaaacag 1080
aacaaggaaa aaatggctga ggggtggatct ggggatgtgg atgatgctgg ggactgttct 1140
ggggccaggt ataatgactg gtctgatgat gatgatgaca gcaatgagag caagagtata 1200
gtatggtacc caccttgggc tcggattggg actgaagctg gaaccagagc tagggccagg 1260
gcaagggcca gggctacccg ggcacgtcgg gctgtccaga aacgggcttc cccaattca 1320
gatgataccg ttttgtcccc tcaagagcta caaaaggctt tttgcttggg tgagatgtct 1380
gaaaagcctt atattcttga agcagcttta attgctctgg gtaacaatgc tgcttatgca 1440
ttaacagag atattattcg tgatctgggt ggtctcccaa ttgtcgcaaa gattctcaat 1500
actcgggatc ccatagttaa ggaaaaggct ttaattgtcc tgaataactt gagtgtgaat 1560
gctgaaaatc agcgcaggct taaagtatac atgaatcaag tgtgtgatga cacaatcact 1620
tctcgcttga actcatctgt gcagcttgct ggactgagat tgcttacaaa tatgactgtt 1680
actaatgagt atcagcacat gcttgctaat tccatttctg actttttctg tttattttca 1740
gcgggaaatg aagaaaccaa acttcagggt ctgaaactcc ttttgaattt ggctgaaaat 1800
ccagccatga ctagggaact gctcagggcc caagtaccat cttcactggg ctccctcttt 1860
aataagaagg agaacaaaga agttattctt aaacttctgg tcatatttga gaacataaat 1920
gataatttca aatgggaaga aaatgaacct actcagaatc aattcgggtg aggttcactt 1980
ttttctttt taaaagaatt tcaagtgtgt gctgataagg ttctgggaat agaaagtcac 2040
catgattttt tgggtgaaagt aaaagtggg aaattcatgg ccaaacttgc tgaacatatg 2100
ttcccaaaga gccaggaata acaccttgat tttgtaattt agaagcaaca cacattgtaa 2160
actattcatt ttctccacct tgtttatatg gttaaaggaa cctttcagct gccagttttg 2220
aataatgaat atcatattgt atcatcaatg ctgatattta actgagttgg tctttaggtt 2280
taagatggat aaatgaatat cactacttgt tctgaaaaca tgtttgttgc tttttatctc 2340
gctgcctaga ttgaaatatt ttgctatttc ttctgcataa gtgacagtga accaattcat 2400
catgagtaag ctcccttctg tcattttcat tgatttaatt tgtgtatcat caataaaatt 2460
gtatgttaat gctggaaaga aaaaaaaaaa aaaaaaaaaa aaaaaa 2505

<210> 199

141,

<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 199
gntgaaacct gaaggatgga gagaaatta 29

<210> 200
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 200
gngagaaata catcagagca ggctgccat 29

<210> 201
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 201
tngtattgca tataagctac aactttacc 29

<210> 202
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 202
antaaagtac ctatgcagtt ttaagacca 29

142

<210> 203
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 203
gngcaaagaa cagaggattc ttgagaaag

29

<210> 204
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 204
anactggcct aggtttcagg gttgtatca

29

<210> 205
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 205
cntgccctaa ctagacaatt acgaatccc

29

<210> 206
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

143.

<400> 206
angaaagagc cttctgtgct gttgataaa

29

<210> 207
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 207
cnctgccagc cccacactct catcacaaa

29

<210> 208
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 208
tcttcaccct cttcccttg

19

<210> 209
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<<400> 209
cnaattgttc aggttgtaga gatgtcagc

29

<210> 210
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<<400> 210
tnagaaggaa atggaaacac acgggaaat

29

144

<210> 211
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<<400> 211
tnagcatgac cagtgggtgga gcaacgaag

29

<210> 212
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 212
ggtatgggaa gctagagggc

20

<210> 213
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 213
gtctgggacg atgttggc

18

<210> 214
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 214
cngagagcta ttgtccttga gtaggctga

29

<210> 215
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 215
gnatcttggtg tcagccccaa aggtttcag

29

<210> 216
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 216
antacaacat gggatgttca ggactaatc

29

<210> 217
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 217
cngcagcagc agctgcccgt ttcacatg

29

<210> 218
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 218
cngggctaac agcccgtaga agacaatga

29

<210> 219
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 219
cnctaggaga gatgctttca cagggtaaa 29

<210> 220
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 220
cngtgggaag cagaacaaca gaaggaact 29

<210> 221
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 221
gntcagcagc acagaggaga caaagtaca 29

<210> 222
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 222
angttgaagg tcgatgtttt ctcttgctg 29

<210> 223
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 223
gnctgatgat gccaaccaag atagttcta 29

<210> 224
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 224
gngaggacag ttcttttggg ggttgagg 29

<210> 225
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 225
anttaagacg aatgtgtggg tttcagacc 29

<210> 226
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 226
tntcaacatc ccaagtagac agcagtcct 29

<210> 227
<211> 29

<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 227
tngacccaca gagagcaggg acttcacaa 29

<210> 228
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 228
tngtttcctt ccagagggaa tgcagtatg 29

<210> 229
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 229
gncggtacca gtagcaatga gcacgaagg 29

<210> 230
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 230
tncgcgagct cctaattcct gctcctcag 29

149

<210> 231
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 231
gnaaatctat gtcattctgt cgggaccaa

29

<210> 232
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 232
tnaggaagat gggaggtaac ccaagggaa

29

<210> 233
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 233
tncagatcca tcaatgaggg tccacccag

29

<210> 234
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 234

150

gncctgtgtg cccagaacaa tcatgctcc 29

<210> 235
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 235
gtttctggaa tgcgggtg 18

<210> 236
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 236
ccgtgatacc gaaatgtcc 19

<210> 237
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 237
gnaacaatca ccttcacat ggcaccaac 29

<210> 238
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 238
gngttgaggc agagctcagt ggtgtccac 29

<210> 239
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 239
ancgtgtgta cgatctgtag ggctgtctg 29

<210> 240
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 240
gnagcacgcg gaaccaacac gttctaata 29

<210> 241
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 241
anatcagggg gctgaggcctt agagagaga 29

<210> 242
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 242
gngaaaggag agaaggccca agagagagg 29

<210> 243
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 243
gntgccactg acgaaagctt gaaataacc 29

<210> 244
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 244
ggctctacat ctcacaccc 20

<210> 245
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 245
cnaagttcta ttgggagatg gagtttgtg 29

<210> 246
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 246
cnatccatgg tacatggtca gaagctcat 29

<210> 247
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 247
tngagcaggt caggatacac tggaaaaga 29

<210> 248
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 248
cnactgcctt tggtgctttc cagtagtga 29

<210> 249
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 249
tnaatatcca catccccaaa tcctacacg 29

<210> 250
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 250
cncttgacgc gggaaggcag agaagtttc 29

<210> 251
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 251
cntgagccac aatagacaga attcctacc 29

<210> 252
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 252
cngtcagggc gcagctgtat tggtcacaa 29

<210> 253
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 253
accacacag aagtgagcc 19

<210> 254
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 254
tnaccagtgt gcgaaggtag agacggcat 29

<210> 255
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

155

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 255
tntagcccgga tgaggctgta tgagtacag 29

<210> 256
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 256
tntcactgcc aaacggagaa gaaacgcaa 29

<210> 257
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 257
gngaaggacc aagacaatcc ctgaagtaa 29

<210> 258
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 258
ttggagcact gaggaacaag 20

<210> 259
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)

<223> biotinylated phosphoramidite residue

<400> 259

gncgtctgca ggagatcaaa aacactgtc

29

<210> 260

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 260

angcagcagg gattgagaag ggaacatca

29

<210> 261

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 261

tnagtttcac cagtctgagc acaagtttg

29

<210> 262

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 262

anggatcact tctgcctctg cttcctgga

29

<210> 263

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

157,

<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 263
antggacact tccatacaca ctaggtgaa 29

<210> 264
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 264
gncatggaag gagactggga taaggcaga 29

<210> 265
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 265
tnccaggaac acagaaaaaa acttgagaa 29

<210> 266
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 266
gngctgggag tactgctaga ggggtgtgga 29

<210> 267
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 267
cnctcttttg ctgtacacga acttgctcc 29

<210> 268
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 268
gngggtggca cagcagagaa agactccat 29

<210> 269
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 269
tngcatcttc accgccagca tcagttttg 29

<210> 270
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> misc_feature
<222> (2)
<223> biotinylated phosphoramidite residue

<400> 270
cnaactctgt aaagccaagt ccagtcacc 29

<210> 271
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 271
 tnctgaggtt gcctccaatt tctccatct

 <210> 272
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 272
 gntgacaaac caaaaataac aaagacccc

 <210> 273
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 273
 gntacatctt tcatccacag agggcatcc

 <210> 274
 <211> 51
 <212> PRT
 <213> Homo sapiens

 <400> 274
 Met Val Leu Phe Phe Phe Phe Ser Leu Ala Val Pro Cys Ser Leu
 1 5 10 15
 Pro Ser Leu Asp Val Cys Thr Asn Tyr Ser Leu Glu Leu Phe Ser Leu
 20 25 30
 Ala Leu Gln Leu Leu Pro Pro Thr Ser Ser Pro Ala Pro Pro Ile His
 35 40 45
 Ser Phe Ala
 50

160

<210> 275
 <211> 82
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (48)

<400> 275
 Met Asn Val Tyr Thr His Phe Arg Gly Ser His Gln Gly Gln Val Gln
 1 5 10 15
 Gly Ser Gly Pro Ser Gly Trp Cys Leu Gln Gly Asn Phe Gly Pro Ser
 20 25 30
 Leu Phe Ser Asp Trp Arg Ser Pro Trp Pro Ala Ser Phe His Thr Xaa
 35 40 45
 Leu Leu Ala Gly Thr Gly Leu Ala Pro Thr Phe Pro Ala Ser Ser Val
 50 55 60
 Val Ala Ser Leu Pro Glu Pro Gly Ser Ser Ser Gly Pro Thr Ser Lys
 65 70 75 80
 Cys His

<210> 276
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 276
 Met Asp Asp Met Leu Ser Thr Arg Ser Ser Thr Leu Thr Glu Asp Gly
 1 5 10 15
 Ala Lys Ser Ser Glu Ala Ile Lys Glu Ser Ser Lys Phe Pro Phe Gly
 20 25 30
 Ile Ser Pro Ala Gln Ser His Arg Asn Ile Lys Ile Leu Glu Asp Glu
 35 40 45
 Pro His Ser Lys Asp Glu Thr Pro Leu Cys Thr Leu Leu Asp Trp Gln
 50 55 60
 Asp Ser Leu Ala Lys Arg Cys Val Cys Val Ser Asn Thr Ile Arg Ser
 65 70 75 80
 Leu Ser Phe Val Pro Gly Asn Asp Phe Glu Met Ser Lys His Pro Gly
 85 90 95
 Leu Leu Leu Ile Leu Gly Lys Leu Ile Leu Leu His His Lys His Pro
 100 105 110
 Glu Arg Lys Gln Ala Pro Leu Thr Tyr Glu Lys Glu Glu Glu Gln Asp
 115 120 125
 Gln Gly
 130

161

<210> 277
 <211> 111
 <212> PRT
 <213> Homo sapiens

<400> 277
 Met Leu Gly Tyr Arg Lys Ile Asn Ala Lys Ala Lys His Pro Val Pro
 1 5 10 15
 Val Leu Glu Val Pro Arg Gly Arg Met Pro Arg Leu Arg Lys Lys Leu
 20 25 30
 Leu Ser Trp Pro Gly Gln Arg Glu Glu Glu Pro Arg Val Gly Val Val
 35 40 45
 Thr His Leu Lys Ile Thr Met Ser Ser Gly Arg Cys Ala Ile Val Leu
 50 55 60
 Gly Leu Gly Gly Cys Gly Arg Pro Thr Leu Gly Met Gln Ser Ser Asp
 65 70 75 80
 Ser Val Ser Leu Ala Thr Leu Gly Leu Leu Thr Thr Leu Pro Val Leu
 85 90 95
 Leu Thr Leu Arg Glu Gly Ser Cys Trp Val Asp Ser Arg Gln Ala
 100 105 110

<210> 278
 <211> 104
 <212> PRT
 <213> Homo sapiens

<400> 278
 Met Glu Asn Ser Leu Leu Ala Met Phe His Glu Ser Arg Ile Leu His
 1 5 10 15
 Leu Trp Ala Ala Leu Phe Leu Val Glu Leu Leu Gln Glu Val Pro Ile
 20 25 30
 Met Thr Cys Ser Asn Ala Asn Thr Pro Ser Val Asn Thr Gly Tyr Phe
 35 40 45
 Lys Leu Ser Ser Val Ala Thr Thr Leu Arg Gln Gln Gln Leu Val Leu
 50 55 60
 Glu Ile Ser Leu Met Ser Val Pro Pro Gly Cys Gly Pro Leu Leu Pro
 65 70 75 80
 Val Leu Ile Pro Val Ala Ser Phe Cys Cys Ile Ile Thr Ile Trp Leu
 85 90 95
 Leu Ile Leu Met Phe Glu Lys Asp
 100

<210> 279
 <211> 147
 <212> PRT
 <213> Homo sapiens

162.

<400> 279

Met Ala Ser Pro Ser Gly Leu Cys Val Leu Val Arg Leu Pro Lys Leu
 1 5 10 15

Ile Cys Gly Gly Lys Thr Leu Pro Arg Thr Leu Leu Asp Ile Leu Ala
 20 25 30

Asp Gly Thr Ile Leu Lys Val Gly Val Gly Cys Ser Glu Asp Ala Ser
 35 40 45

Lys Leu Leu Gln Asp Tyr Gly Leu Val Val Arg Gly Cys Leu Asp Leu
 50 55 60

Arg Tyr Leu Ala Met Arg Gln Arg Asn Asn Leu Leu Cys Asn Gly Leu
 65 70 75 80

Ser Leu Lys Ser Leu Ala Glu Thr Val Leu Asn Phe Pro Leu Asp Lys
 85 90 95

Ser Leu Leu Leu Arg Cys Ser Asn Trp Asp Ala Glu Thr Leu Thr Glu
 100 105 110

Asp Gln Val Ile Tyr Ala Ala Arg Asp Ala Gln Ile Ser Val Ala Leu
 115 120 125

Phe Leu His Leu Leu Gly Tyr Pro Phe Ser Arg Asn Ser Pro Gly Glu
 130 135 140

Lys Lys Arg
 145

<210> 280

<211> 176

<212> PRT

<213> Homo sapiens

<400> 280

Met Thr Asp Cys Leu Val Ile Lys His Phe Leu Arg Lys Ile Ile Met
 1 5 10 15

Val His Pro Lys Val Arg Phe His Phe Ser Val Lys Val Asn Gly Ile
 20 25 30

Leu Ser Thr Glu Ile Phe Gly Val Glu Asn Glu Pro Thr Leu Asn Leu
 35 40 45

Gly Asn Gly Ile Ala Leu Leu Val Asp Ser Gln His Tyr Val Ser Arg
 50 55 60

Pro Asn Phe Gly Thr Ile Glu Ser His Cys Ser Arg Ile His Pro Val
 65 70 75 80

Leu Gly His Pro Val Met Leu Phe Ile Pro Glu Asp Val Ala Gly Met
 85 90 95

Asp Leu Leu Gly Glu Leu Ile Leu Thr Pro Ala Ala Ala Leu Cys Pro
 100 105 110

Ser Pro Lys Val Ser Ser Asn Gln Leu Asn Arg Ile Ser Ser Val Ser
 115 120 125

163

Ile Phe Leu Tyr Gly Pro Leu Gly Leu Pro Leu Ile Leu Ser Thr Trp
 130 135 140

Glu Gln Pro Met Thr Thr Phe Phe Lys Asp Thr Ser Ser Leu Val Asp
 145 150 155 160

Trp Lys Ile Pro Phe Val Tyr Asp Thr Gln Phe Gly Ser Gln Phe Gly
 165 170 175

<210> 281

<211> 89

<212> PRT

<213> Homo sapiens

<400> 281

Met Gly Ser Leu Ser Thr Ala Asn Val Glu Phe Cys Leu Asp Val Phe
 1 5 10 15

Lys Glu Leu Asn Ser Asn Asn Ile Gly Asp Asn Ile Phe Phe Ser Ser
 20 25 30

Leu Ser Leu Leu Tyr Ala Leu Ser Met Val Leu Leu Gly Ala Arg Gly
 35 40 45

Glu Thr Ala Glu Gln Leu Glu Lys Val Leu His Phe Ser His Thr Val
 50 55 60

Asp Ser Leu Lys Pro Gly Phe Lys Asp Ser Pro Lys Cys Ser Gln Ala
 65 70 75 80

Gly Arg Ile His Ser Glu Phe Gly Val
 85

<210> 282

<211> 115

<212> PRT

<213> Homo sapiens

<400> 282

Met Val Thr Gly Met Leu Ile Ser Ser Thr Arg Gly Ser Ser Asp Gly
 1 5 10 15

Arg Asn Cys Ser Ala Ile Leu Val Pro Val Ser Pro Val Gly Arg Gln
 20 25 30

Pro Leu Tyr Leu Thr Ser Arg Pro Gly Asp Trp Ser Gln Gly Tyr Cys
 35 40 45

Thr Thr Gly Gln Phe Pro Ala Ile Val Arg Lys Glu Thr Pro Glu Leu
 50 55 60

Asn Gly Arg Asp Ile Pro Ala Val Phe Asn Ile Thr Pro Met Pro Phe
 65 70 75 80

Val Arg Leu Pro Cys Thr Glu Ile Thr Trp Arg Ala Ser Cys Arg Leu
 85 90 95

Tyr Leu Arg Thr Leu Val Lys Tyr Leu Leu Ser Phe Leu Ala Ala Arg
 100 105 110

164

Met Gln Lys
115

<210> 283

<211> 189

<212> PRT

<213> Homo sapiens

<400> 283

Met Val His Cys Pro His Glu Leu Leu Gln Met Pro Leu Ser Leu Phe
1 5 10 15

Ser Gln Arg Ser Trp Val Thr Gln Cys Leu Asp Thr Trp Lys Thr Cys
20 25 30

Thr Leu Ile Thr Gln Arg His Leu Ala Ser Asp His Leu Pro Ser Glu
35 40 45

Phe Leu Leu Val Gln Leu Gly Tyr His Pro Leu Thr His Gln Ala Ala
50 55 60

Pro His Leu Pro Leu Leu Leu Trp Gln Val Phe Pro Ala Tyr Gln
65 70 75 80

Glu Gln Gly Phe Ser Cys Lys Gly Gln Leu Leu Leu Gly Leu Leu Val
85 90 95

Ser Thr Asp Asn Ile Phe Leu Pro Ile Leu Gly Gln Ala Pro Gln Thr
100 105 110

His Pro Leu Leu Pro His Gln Arg Trp Ala Asn Gln Lys Glu Ser Val
115 120 125

Pro Val Lys Ile Glu Arg Tyr Leu Pro Gln Leu Glu Gln Arg Asp Trp
130 135 140

Pro Glu Phe Gly Lys Glu Gly Leu Leu His Lys Pro Arg Arg Gly Pro
145 150 155 160

Val Leu Ser Leu Pro Leu Asp Thr Val Glu Ser Gly His Leu Val Ser
165 170 175

Met Leu Cys Gln Lys Ala Tyr Gln Val Gly Arg Asn Leu
180 185

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 October 2001 (11.10.2001)

PCT

(10) International Publication Number
WO 01/075068 A3

(51) International Patent Classification⁷: **C07H 21/02**,
21/04, C07K 5/00, 14/00, C12Q 1/68, C12P 21/06, C12N
1/20, 15/63, 5/00

(74) Agent: **PERRY, Lawrence**; Fitzpatrick, Cell, Harper &
Scinto, LLP, 30 Rockefeller plaza, New York, NY 10112
(US).

(21) International Application Number: PCT/US01/09369

(22) International Filing Date: 22 March 2001 (22.03.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/539,330 30 March 2000 (30.03.2000) US
09/729,674 4 December 2000 (04.12.2000) US

(71) Applicant: **GENETICS INSTITUTE, LLC**. [US/US];
87 CambridgePark Drive, Cambridge, MA 02140 (US).

(72) Inventors: **JACOBS, Kenneth**; 151 Beaumont Avenue,
Newton, MA 02160 (US). **MCCOY, John, M.**; 56
Howard Street, Reading, MA 01867 (US). **LAVALLE,**
Edward; 113 Ann Lee Road, Harvard, MA 01451 (US).
COLLINS-RACIE, Lisa, A.; 124 School Street, Acton,
MA 01720 (US). **EVANS, Cheryl**; 11801 Bent Willow
Circle, Germantown, MD 20874 (US). **TREACY, Mau-**
rice; 12 Foxrock Court, Dublin 18 (IE). **AGOSTINO,**
Michael, J.; 26 Wolcott Avenue, Andover, MA 01810
(US). **STEININGER, Robert, J., II**; 100 Reed Street,
Cambridge, MA 02140 (US). **SPAULDING, Vikki**; 11
Meadowbank Road, Billerica, MA 01821 (US). **WONG,**
Gordon, G.; 239 Clark Road, Brookline, MA 02146 (US).
CLARK, Hilary; 146 Webster Avenue #2, Cambridge,
MA 02141 (US). **FECHTEL, Kim**; 46 Marion Road, Ar-
lington, MA 02174 (US). **MERBERG, David**; 2 Orchard
Drive, Acton, MA 01720 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,
TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
3 January 2003

(15) Information about Correction:

Previous Correction:

see PCT Gazette No. 36/2002 of 6 September 2002, Sec-
tion II

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*



WO 01/075068 A3

(54) Title: SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM

(57) Abstract: Novel polynucleotides and the proteins encoded thereby are disclosed.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/09369

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : *Please See Extra Sheet*

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Extra Sheet.**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Database: N_Geneseq_1101; Accession NO: AAX60801; Agostino et al., "Human secreted protein encoding DNA (clone bd306_7)"; 09 August 1999; having 100% sequence identity to SEQ ID NO: 1; see entire document.	1, 2, 7, 8
X	Database: A_Geneseq_1101; Accession NO: AAY17219; Agostino et al.; "Human secreted protein (clone bd306_7); 09 August 1999; having 99.9% sequence identity to SEQ ID NO: 2; see entire document.	1, 2, 7, 8

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

07 JUNE 2002

Date of mailing of the international search report

02 JUL 2002

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

RITA MITRA

Telephone No. (703) 308-0196

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/09369

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/26961 A1 (GENETICS INSTITUTE, INC) 03 JUNE 1999, see entire document, especially pages 51 and 57.	1-5, 7, 8
X	Database: SPTREMBL_17; Accession NO: O75718; Castagnola et al. " Cartilage-associated protein (CASP) precursor"; 01 November 1998; having 99.9% sequence identity to SEQ ID NO: 2; see entire document.	1, 2, 7

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-5, 7, 8

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

A. CLASSIFICATION OF SUBJECT MATTER:

IPC (7):

C07H 21/02, 21/04; C07K 5/00, 14/00; C12Q 1/68; C12P 21/06, C12N 1/20, 15/63, 5/00

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

536/23.1, 23.5, 24.31; 530/300, 350; 435/6, 69.1, 252.3, 320.1, 325

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

Sequence Search (Database: GenEmbl, N_Geneseq_1101, Issued_Patents_NA, EST, A_Geneseq_1101, Issued_Patents_AA, Pir_6,8 SwissProt_39, SPTREMBL_17)

STN (Database: CA, CAPLUS, USPATFULL)

DIALOG (Database: MEDLINE, BIOSIS, DIALOG GLOBAL REPORTER, DERWENT WPI)

Search Terms: polynucleotide, polypeptide, secreted protein, transmembrane protein

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I. Claims 1-5, 7, 8, directed to an isolated polynucleotide comprising or related to nucleotide sequence of SEQ ID NO: 1 that encodes a protein of SEQ ID NO: 2, vector, host cell and a process of producing the protein recombinantly.

Group II. Claims 6, 9-12, directed to an isolated protein comprising or related to amino acid sequence of SEQ ID NO: 2, a composition comprising the protein related to SEQ ID NO: 2.

Group III. Claim 13, directed to an isolated polynucleotide comprising or related to the nucleotide sequence of SEQ ID NO: 19.

Group IV. Claim 14, directed to an isolated protein comprising or related to amino acid sequence of SEQ ID NO: 20.

and it considers that the International Application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated below:

The inventions listed as Groups I-IV do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The polynucleotides and polypeptides of each of the clones bd306_7 and ybd_1 in the claims are unrelated, each to the other. The polynucleotide sequences encode structurally distinct polypeptides and do not share a special technical feature. Furthermore, the technical feature that links the DNA, protein, methods of cDNA clone bd306_7 (claim 1) is not a contribution over the prior arts of Agostino et al. and Castagnola et al. See the various documents cited in the search report. Thus the technical feature of the polynucleotide sequence is not special and the groups are not so linked under PCT Rule 13.1. Additionally the claimed methods produce different products and/or different results which are not coextensive and which do not share the same technical feature.